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National Air Toxics Information Clearinghouse Bibliography of Selected Reports and Federal Register Notices Related to Air Toxics. Volume 3. Citations, 1989

Radian Corp., Research Triangle Park, NC

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EPA
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

STAPPA / ALAPCO
State and Territorial Air Pollution Program Administrators
Association of Local Air Pollution Control Officials

Bibliography of Selected Reports and Federal Register Notices Related to Air Toxics

Volume 3: Citations - 1989

July 1989

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NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE: BIBLIOGRAPHY OF SELECTED REPORTS AND FEDERAL REGISTER NOTICES RELATED TO AIR TOXICS

VOLUME 3: CITATIONS - 1989

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PREFACE

In response to State and local agency requests for air toxics information and to support these agencies in their air pollution control efforts, the U. S. Environmental Protection Agency has designed and is implementing an information dissemination center, known as the National Air Toxics Information Clearinghouse. The design and implementation of the Clearinghouse has been conducted in close coordination with the State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO).

The purpose of this bibliography is to provide State and local agencies with citations to reports and Federal Register notices useful to them in developing and operating air toxics control programs. The reports selected for this bibliography were published by the following agencies: U. S. Environmental Protection Agency, National Academy of Sciences, National Cancer Institute, National Institute of Environmental Health Sciences, National Toxicology Program, National Institute for Occupational Safety and Health, Agency for Toxic Substances and Disease Registry, Consumer Products Safety Commission, and World Health Organization, including the International Agency for Research on Cancer. Relevant reports published by various State and local agencies are also included in this edition. This edition of the bibliography updates the cumulative bibliography previously published by the National Air Toxics Information Clearinghouse, Bibliography of Selected Reports and Federal Register Notices Related to Air Toxics, three volumes: Volume 1: Citations (July 1987); Volume 2: Citations - 1988 (July 1988); and Index - 1988 (July 1988). The citations selected this year were compiled from sources available through January 31, 1989.

The Clearinghouse plans to continue to update this bibliography on a regular basis. Other publications of the Clearinghouse include:

- National Air Toxics Information Clearinghouse: Rationale for Air Toxics Control in Seven State and Local Agencies, EPA-450/5-86-005, PB86-181179/AS, August 1985:

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- National Air Toxics Information Clearinghouse: How The Clearinghouse Can Help to Answer Your Air Toxics Questions, EPA-450/5-86-009, PB88-157813/AS, July 1986;
- National Air Toxics Information Clearinghouse: Methods for Pollutant Selection and Prioritization, EPA-450/5-86-010, PB87-124079/AS, July 1986;
- National Air Toxics Information Clearinghouse: Qualitative and Quantitative Cancer Risk Assessment, EPA-450/5-87-003, PB88-113188/AS, June 1987;
- National Air Toxics Information Clearinghouse: Bibliography of Selected Reports and Federal Register Notices Related to Air Toxics Volume 1: Citations - 1987, EPA-450/5-87-005. PB88-136601/REB, July 1987 and Volume 2: Citations - 1988, EPA-450/5-88-005, PB 89-103436/REB, July 1988;
- National Air Toxics Information Clearinghouse: NATICH Data Base Users Guide for Data Entry and Editing, EPA-450/5-88-001, PB88-202734/REB, February 1988;
- National Air Toxics Information Clearinghouse: NATICH Data Base Users Guide for Data Viewing, EPA-450/5-88-002, PB88-197470/REB February 1988;
- National Air Toxics Information Clearinghouse: Case Studies in Risk Communication, EPA-450/5-88-003, PB89-104277/REB, May 1988;
- National Air Toxics Information Clearinghouse: NATICH Data Base Report on State, Local, and EPA Air Toxics Activities, EPA-450/5-88-007, PB89-106983/REB, July 1988;
- National Air Toxics Information Clearinghouse Newsletter, A Bimonthly Periodical, 26 issues to date, December 1983 - March 1989; and
- National Air Toxics Information Clearinghouse: Ongoing Research and Regulatory Development Projects, EPA-450/3-89-26, NTIS number not yet available, July 1989.

ABSTRACT

The National Air Toxics Information Clearinghouse has been established by the U. S. Environmental Protection Agency's (EPA) Office of Air Quality Planning and Standards for the purpose of facilitating information transfer among Federal, State, and local air quality management agencies. This document has been published as part of that effort. The purpose is to provide State and local agencies and other Clearinghouse users with citations to reports and Federal Register notices useful in developing and operating air toxics control programs. The reports selected for this bibliography were published by the following agencies: U. S. Environmental Protection Agency, National Academy of Sciences, National Cancer Institute, National Institute of Environmental Health Sciences, National Toxicology Program, National Institute for Occupational Safety and Health, Agency for Toxic Substances and Disease Registry, Consumer Products Safety Commission, and World Health Organization, including the International Agency for Research on Cancer. Reports published by various State and local agencies are also included.

The bibliography is published in three volumes plus an index. Volume 1 contains cumulative citations from before 1974 through March 1987 (EPA-450/5-87-005, Volume 1, PB88-136601/REB), Volume 2 (EPA-450/5-88-005, PB89-103436/REB) the citations from April 1987 through March 1988. Volume 3 has the more recent citations from April 1988 through January 1989. This volume consists of two parts. Part 1 includes introductory material describing the bibliography scope and organization and contains information necessary for the proper use of the document. This part updates the corresponding part in Volumes 1 and 2. Volume 3, Part 2 contains the report and Federal Register notice entries with bibliographic information and, in most cases, an abstract. The current index to the bibliography (Index - 1989, EPA-450/3-89-25a) covers all the reports from 1974 to the present. Each listing indicates which of the three volumes contains the citation. The index is organized by document type; by pollutant class, name, or

Chemical Abstract Services (CAS) number; by source category Standard Industrial Classification (SIC) Code; and by sponsoring agency.

This document was submitted in partial fulfillment of EPA Contract No. 68-D8-0065, Work Assignment No. 7, by Radian Corporation under the sponsorship of the U. S. Environmental Protection Agency. This edition of the bibliography updates previous bibliographies published by the National Air Toxics Information Clearinghouse. The Clearinghouse will continue to publish regular updates in separate volumes, consecutively numbered. Periodically, these volumes will be combined into one document. Each year, a new cumulative index will be published that expands and replaces the previous year's edition. The 1989 index allows users to identify publications of interest in Volumes 1, 2, or 3.

TABLE OF CONTENTS

Section Page

Volume 1

1.0 Introduction 1

1.1 Document Scope 1

1.2 Organization of Document 4

1.3 Ordering Information 12

2.0 Report and Federal Register Notice Entries 25

Volume 2

1.0 Introduction 1

1.1 Document Scope 1

1.2 Organization of Document 5

1.3 Ordering Information 13

2.0 Report and Federal Register Notice Entries 25

Volume 3

1.0 Introduction 1

1.1 Document Scope 1

1.2 Organization of Document 5

1.3 Ordering Information 14

2.0 Report and Federal Register Notice Entries 27

Appendix A - Index to the Clearinghouse Newsletters A-1

Index

Table of Contents to Index 1

TABLE OF CONTENTS (Continued)

Section Page

Index to Report and Federal Register Notice Entries 65

Alphabetic Index Terms 67

Numeric Index Terms 458

LIST OF TABLES

Table		Page
1	List of EPA Offices Contacted	4
2	Clearinghouse Chemical Identifiers	9
3	List of Abbreviations	12
4	Key to Document Types	13

LIST OF FIGURES

Figure | Page
1 Sample Entries 6

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1.0 INTRODUCTION

This bibliography has been developed by the National Air Toxics Information Clearinghouse, operated by the Pollutant Assessment Branch of the EPA Office of Air Quality Planning and Standards (OAQPS). Over 1,850 bibliographic citations to reports and Federal Register notices related to toxic air pollutants are included. To facilitate the use of this bibliography, citations are indexed by document type, pollutant name or class and Chemical Abstract Service (CAS) number, source category Standard Industrial Classification (SIC) Code, and sponsoring agency.

Like other Clearinghouse publications, the bibliography is designed to help Clearinghouse users identify sources of information for specific air toxics questions or problems. This edition of the bibliography announces 122 new reports and Federal Register notices.

The information contained in this bibliography is also available through the National Air Toxics Information Clearinghouse on-line data base - NATICH. For more information about accessing NATICH, contact the Clearinghouse staff at (919) 541-0850, (FTS) 629-0850.

1.1 DOCUMENT SCOPE

This bibliography contains a selected list of reports and Federal Register notices which have been identified as being useful to State and local agencies developing and operating air toxics control programs. The reports were published by the following agencies: U. S. Environmental Protection Agency, National Academy of Sciences (NAS), National Cancer Institute (NCI), National Institute of Environmental Health Sciences, National Toxicology Program (NTP), National Institute for Occupational Safety and Health (NIOSH), Agency for Toxic Substances and Disease Registry (ATSDR), Consumer Products Safety Commission (CPSC), and World Health Organization (WHO), including the International Agency for Research on Cancer (IARC). Reports published by State and local agencies are also included.

The citations include documents of the following types:

- Accident prevention/emergency response
- Ambient monitoring
- Case studies (used only by State and local agencies)
- Chemical Hazard Information Profile (used only by EPA)
- Control program support (used only by State and local agencies)
- Control technology
- Dispersion modeling
- Emission factors
- Epidemiological studies
- Exposure assessment
- Federal Register notices
- Health assessment
- Indoor air
- National emission standards for hazardous air pollutants (used only by EPA)
- New source performance standards (used only by EPA)
- Pre-regulatory assessment
- Regulatory development guidance
- Risk assessment
- Rules and regulations
- Source assessment
- Source sampling
- Toxicity testing

Citations were selected within each document type according to their relevance to air toxics work. The background information documents for new source performance standards were included in this bibliography because, while their focus is on control of criteria air pollutants, they also contain valuable information on the sources and control of noncriteria, potentially toxic air pollutants. The Federal Register notices include the Agency's announcements regarding Sections 111 and 112 of the Clean Air Act dealing with the new source performance standards and the national emission standards for hazardous air pollutants programs, respectively. The notices also include proposed guidelines concerning health, exposure, and risk assessments issued by the Office of Health and Environmental Assessment.

Citations for each of these topic areas were compiled by contacting the EPA office currently conducting that particular type of work and by supplementing those contributions by searching published lists of EPA reports, such as the EPA Publication Bibliography and the ORD Publications Announcement. The EPA offices contacted are listed in Table 1.

Abstracts for the EPA reports were obtained from the EPA Publications Bibliography, the National Technical Information Service (NTIS) data base, or the technical data sheet included in the report. Abstracts for the Federal Register notices were prepared from the Summary and Supplementary Information sections of each notice.

Citations to reports from the eight other sponsoring agencies (NAS, NCI, NIEHS, NTP, NIOSH, ATSDR, CPSC, and WHO) included in this bibliography focus on health, risk, exposure assessments, toxicity testing, and epidemiology studies. Most documents discuss one or more potentially toxic chemicals, and a few emphasize exposure to toxic substances in a particular industry. While ambient air exposure was the primary area of interest, reports on occupational exposure and exposure via drinking water were also included.

The research of the National Institute of Environmental Health Sciences (NIEHS) is included in a single citation by reference to the National Institute of Environmental Health Sciences Bibliography 1966-1986. The NIEHS does not typically publish individual monographs or reports; rather research results are generally published in technical journal articles, conference papers, and books. These types of publications were outside the scope of the bibliography.

Citations to reports from each of the eight agencies on the topics of risk and exposure assessments and health effects were compiled from agency catalogs, from the NTIS data base, and from printouts generated from in-house agency data bases. Abstracts were obtained from each of these sources when available.

TABLE 1. LIST OF EPA OFFICES CONTACTED*

- Office of Air and Radiation (OAR)
  - Office of Air Quality Planning and Standards (OAQPS)
  - Office of Atmospheric and Indoor Air Programs (OAIAP)
  - Office of Mobile Sources (OMS)
  - Office of Radiation Programs (ORP)
- Office of Pesticides and Toxic Substances (OPTS)
  - Office of Toxic Substances (OTS)
  - Office of Pesticide Programs (OPP)
- Office of Policy, Planning and Evaluation (OPPE)
- Office of Research and Development (ORD)
  - Office of Health and Environmental Assessment (OHEA)
  - Office of Health Research (OHR)
  - Office of Environmental Engineering and Technology Demonstration (OEETD)
  - Office of Modeling, Monitoring Systems and Quality Assurance (OMMSQA)
- Office of Solid Waste and Emergency Response (OSWER)
  - Office of Solid Waste (OSW)
  - Office of Emergency and Remedial Response (OERR)
- Office of Water (OW)

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*Not all divisions or laboratories are contacted.

In addition to reports by EPA and the eight other agencies, this bibliography includes citations to relevant reports published by State and local agencies. These citations are submitted by the agencies directly to the Clearinghouse and are available for distribution to other Clearinghouse users.

This document also contains an index to the National Air Toxics Information Clearinghouse Newsletter. The Newsletter is published periodically by the Clearinghouse to inform readers of current issues relating to toxic air pollutants. Articles discuss activities at the Federal, State, and local levels.

1.2 ORGANIZATION OF DOCUMENT

This document has been published in three volumes and an index. Volume 1 contains cumulative citations from before 1974 through March 1987 (EPA-450/5-87-005, Volume 1, PB88-136601/REB), Volume 2 (EPA-450/5-88-005, PB89-103436/REB) the citations from April 1987 through March 1988. Volume 3 has the more recent citations from April 1988 through January 1989. This volume consists of two parts. Part 1 is the introductory material discussing scope and organization. It also contains explanatory information necessary for the proper use of the bibliography, such as keys to agency and office abbreviations and two sample bibliographic entries, as well as ordering information for reports by EPA and the other agencies. Part 2 of Volume 3 contains the report and Federal Register notice entries with bibliographic information and, in most cases, an abstract. The report entries are arranged by document order number. Figure 1 explains each line of two sample entries. Each entry has been assigned certain key words or descriptors pertaining to document type, pollutant, source whenever an SIC Code applies, and sponsoring agency. These descriptors are used to generate the index and to give users several ways to access reports of interest. The Newsletter index also appears in Part 2 of Volume 3 as an appendix.

The current index (Index - 1989, EPA-450/3-89-25a) enables users to identify reports of interest in Volumes 1, 2, or 3 (the volume number in parentheses will appear immediately preceding the publication number).

FIGURE 1. SAMPLE ENTRIES

Report entries are arranged alphanumerically by document order number.

A sample entry follows:

PB84-156157
Demonstration of Remedial Techniques Against Radon in Houses on Florida Phosphate Lands
EPA, Montgomery, AL, ORP/EERF
July 1983, 195 p., EPA-520/5-83-009, PC A09/MF A01

Abstract: This report is to document the results of an activity which forms part of a program intended to demonstrate means of controlling indoor radon levels in structures built on Florida phosphate lands. The natural radon content of the soil is elevated in some parts of the Florida phosphate lands, resulting in elevated radon concentrations in the soil gas. If building construction is such as to provide pathways, or routes of entry, between the interior of the building and the soil below, then this radon-bearing soil gas may enter the building and result in elevated indoor levels. This report therefore documents a review of current building practices, with the intention of identifying routes of entry. Based upon this knowledge, certain modifications to building practices may be seen as a means of reducing indoor radon levels.

CL-PHOSPHA	PHOSPHATES
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
14	NONMETALLIC MINERALS, EXCEPT FUELS
147	CHEMICAL AND FERTILIZER MINERALS
1475	PHOSPHATE ROCK
52	BUILDING MATERIALS AND GARDEN SUPPLIES
7440-61-1	URANIUM

FIGURE 1. SAMPLE ENTRIES (Continued)

A sample _Federal_ _Register_ notice entry follows:

_45 FR 83952 12-19-80_
Benzene Emissions from Benzene Storage Vessels; National Emission Standarc
for Hazardous Air Pollutants; Hearing
EPA, Research Triangle Park, NC, OAQPS

Abstract: Proposed rule and notice of public hearing. The proposed standard would limit benzene emissions from each new and existing storage vessel with a capacity greater than 4 cubic meters used to store pure benzene. The notice describes proposed requirements for fixed/floating roofs, primary and secondary seals, and inspection procedures.

EPA	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
34	FABRICATED METAL PRODUCTS
344	FABRICATED STRUCTURAL METAL PRODUCTS
3443	FABRICATED PLATE WORK (BOILER SHOPS)
71-43-2	BENZENE

Index categories include document type, pollutant class or name and CAS number, source category SIC Code and the corresponding title, and sponsoring agency. Groups of chemicals or pollutants such as "organic compounds" that could not be identified more precisely by individual chemical names were assigned unique Clearinghouse identifiers in the place of CAS numbers. A list of these identifiers is found in Table 2. A key to the international and national sponsoring agency abbreviations appears in Table 3. Table 4 lists the document types and their abbreviations. A table of contents to the index is found at the beginning of the index. This table of contents consists of an alphabetic and numeric list of all descriptors, along with their corresponding page numbers in the index. These descriptors, or index terms, represent subject headings which describe the content of a document.

This year a second series of key words has been added that allows users to identify specific State agency reports. Each agency has a unique four-place alphanumeric code by which it it indexed, for example, California South Coast Air Quality Management Division is CA03. Since federal agency key words are already in use, a generic keyword EPA has been assigned. Although this term appears in the keyword list following the relevant citation, it is not used for indexing.

This bibliography is updated regularly by the National Air Toxics Information Clearinghouse. In the next update, the Clearinghouse will publish abstracts only for the newly identified reports and Federal Register notices, but will publish a cumulative index to all citations. Thus, users should save previous volumes of the bibliography citations (Volumes 1, 2, and 3) for use after July 1989.

All bibliographic citations will continue to be accessible through the NATICH on-line data base. These can be sorted by a combination of factors: by product and/or source category and/or document type and/or sponsoring agency.

TABLE 2. CLEARINGHOUSE CHEMICAL IDENTIFIERS

Clearinghouse CAS #	Pollutant
CL-ABRAS	Abrasives
CL-ACID	Acidic compounds
CL-ADIP	Adipates
CL-ALDEHYD	Aldehydes
CL-ALKYLPB	Alkyl lead compounds
CL-ALLERG	Allergens
CL-ALMERC	Alkyl mercury compounds
CL-ALUM	Aluminum compounds
CL-AMINE	Amines
CL-BACT	Bacteria
CL-BROM	Bromine compounds
CL-BTX	Benzene, toluene, xylene
CL-CARBON	Total carbon
CL-CARCIN	Carcinogens
CL-CFC	Chlorofluorocarbons
CL-CHC	Chlorinated hydrocarbons
CL-CHLOR	Chlorine compounds
CL-CHROME	Chromium compounds
CL-COE	Coke oven emissions
CL-COPPER	Copper compounds
CL-COTDUST	Cotton dust
CL-CREOSOL	Creosols
CL-CUTFLU	Cutting fluids
CL-DGAEA	Diethylene gycol alkyl ethers and acetates
CL-DIESEL	Diesel fuel emissions
CL-DIISOCY	Diisocyanates
CL-DIOXIN	Dioxins
CL-DYE	Dyes
CL-ETS	Environmental tobacco smoke
CL-EXPLO	Explosives
CL-FUELOIL	Waste derived fuel oil emissions
CL-FUNG	Fungicides
CL-FURAN	Furans
CL-GLASS	Fibrous glass dust
CL-HALOME	Halomethanes
CL-HAZWAST	Hazardous wastes
CL-HCARB	Hydrocarbons
CL-HERB	Herbicides
CL-HEXANE	Hexane isomers
CL-IAP	Indoor air pollutants
CL-INMERC	Aryl and inorganic mercury compounds
CL-INORGAN	Inorganic compounds
CL-INOTIN	Inorganic tin and oxide compounds
CL-INSMOLY	Insoluble molybdenum compounds

TABLE 2. CLEARINGHOUSE CHEMICAL IDENTIFIERS (Continued)

Clearinghouse CAS #	Pollutant
CL-INSRHOD	Insoluble rhodium compounds
CL-INSTUNG	Insoluble tungsten compounds
CL-IRON	Iron compounds
CL-MANG	Manganese compounds
CL-MAPP	Methyl acetylene-propadiene mixture
CL-METAL	Metallic compounds
CL-METOXBZ	Methoxybenzene compounds
CL-MINDUST	Mineral dusts
CL-MINFIB	Mineral fibers
CL-MOM	Mineral oil mist
CL-MS	Mineral spirits
CL-NICKEL	Nickel compounds
CL-NITRATE	Nitrates
CL-NITRITE	Nitrites
CL-NITROSO	Nitroso compounds
CL-NMHC	Non-methane hydrocarbons
CL-ODOR	Odors
CL-OH	Hydroxides
CL-ORGANIC	Organic compounds
CL-PAH	Polycyclic aromatic hydrocarbons
CL-PCO	Photochemical oxidants
CL-PEST	Pesticides
CL-PHARM	Pharmaceuticals
CL-PHENOL	Phenols
CL-PHOSPHA	Phosphates
CL-PHTH	Phthalates
CL-PLAS	Plasticizers
CL-PLAT	Platinum compounds
CL-PM	Particulate matter
CL-POM	Polycyclic organic matter
CL-PYRO	Pyro powders
CL-RAD	Radiation
CL-RCSPP	Rosin core solder pyrolysis products
CL-RESIN	Resins
CL-ROSIN	Rosin vapors
CL-RUBSOL	Rubber solvents
CL-SALTS	Salts
CL-SEWSLUD	Sewage sludge
CL-SILVER	Silver compounds
CL-SOLMOLY	Soluble molybdenum compounds
CL-SOLRHOD	Soluble rhodium compounds
CL-SOLTUNG	Soluble tungsten compounds
CL-SOLVENT	Solvents
CL-SULFATE	Sulfates

TABLE 2. CLEARINGHOUSE CHEMICAL IDENTIFIERS (Continued)

Clearinghouse CAS #	Pollutant
CL-SULFIDE	Sulfides
CL-SULFITE	Sulfites
CL-SVOC	Semivolatile organic compounds
CL-TIN	Organic tin compounds
CL-TRS	Total reduced sulfur
CL-VARIOUS	Various pollutants
CL-VEG	Vegetable oil mist
CL-VOC	Volatile organic compounds
CL-WELD	Welding fumes
CL-WOOD	Wood smoke

TABLE 3. LIST OF ABBREVIATIONS

KEY TO AGENCY ABBREVIATIONS[*]

ATSDR	Agency for Toxic Substances and Disease Registry
EPA	U. S. Environmental Protection Agency
CPSC	Consumer Products Safety Commission
IARC	International Agency for Research On Cancer
NAS	National Academy of Sciences
NCI	National Cancer Institute
NIEHS	National Institute of Environmental Health Sciences
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
WHO	World Health Organization

KEY TO DIVISION AND LABORATORY ABBREVIATIONS

AEERL	Air and Energy Engineering Research Laboratory
AQMD	Air Quality Management Division
AREAL	Atmospheric Research and Exposure Assessment Laboratory
ASRL	Atmospheric Sciences Research Laboratory
CSD	Criteria Standards Division
EAG	Exposure Assessment Group
ECAD	Existing Chemical Assessment Division
ECAO	Environmental Criteria and Assessment Office
EERF	Eastern Environmental Radiation Facility
EML	Environmental Monitoring Laboratory
ERD	Emergency Response Division
ESD	Emission Standards Division
HED	Hazard Evaluation Division
HERL	Health Effects Research Laboratory
HHAG	Human Health Assessment Group
IAD	Indoor Air Division
RREL	Risk Reduction Engineering Laboratory
SSCD	Strategies and Air Standards Division
TSD	Technical Support Division
WMD	Waste Management Division

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[*] Reports by State and local agencies are indexed under the term "State or Local Agency." Report numbers begin with the two letter State abbreviation.

TABLE 4. KEY TO DOCUMENT TYPES

AM	Ambient Monitoring
CS	Case Study (State and Local Agencies Only)
CHIP	Chemical Hazard Information Profile (EPA Only)
CT	Control Technology
DM	Dispersion Modeling
EF	Emission Factor
EA	Exposure Assessment
ER	Accident Prevention/Emergency Response
ES	Epidemiological Study
FR	*Federal Register* Notices
HA	Health Assessment
IA	Indoor Air
NESHAP	National Emission Standards for Hazardous Air Pollutants (EPA Only)
NSPS	New Source Performance Standards (EPA Only)
OT	Other (State and Local Agencies Only)
PD	Air Toxics Program Support Document (State and Local Agencies Only)
PRA	Pre-regulatory Assessment
RDG	Regulatory Development Guidance
RA	Risk Assessment
RR	Rules and Regulations
SA	Source Assessment
SS	Source Sampling
TT	Toxicity Testing

1.3 ORDERING INFORMATION

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2.0 REPORT AND FEDERAL REGISTER NOTICE ENTRIES

AD-A163 614/1/XAB
Possible Long-Term Health Effects of Short-Term Exposure to Chemical Agents. Volume 3. Current Health Status of Test Subjects
National Academy of Sciences
Dec 85, 106p, PC A06/MF A01

Abstract: This report is the third volume in a series prepared for a study that investigated possible delayed and long-term effects of experimental chemicals administered to soldiers at the U.S. Army Laboratories, Edgewood, MD. The Edgewood tests, conducted over a 20-year period ending in 1975, were intended to investigate the immediate and short-term human-performance effects of short-term exposure to various chemicals with warfare potential and the subjects responses to therapy for such effects. Information in Volume 3 is based on the results of a questionnaire regarding current health status of test subjects. Edgewood test subjects who were alive and could be located received a mailed questionnaire; 82% of those who received the questionnaire responded to it. Subjects tested with anticholinesterase chemicals, anticholinergic chemicals, cholinesterase reactivators, or psychochemicals did not differ significantly from control subjects or from those tested with other classes of drugs. Almost 90% reported no health problems related to the exposures under scrutiny, and 79% reported good to excellent health. Subjects tested with irritants and vesicants, including those who developed skin burns from mustard gas, reported no increased prevalence of skin cancer or other adverse effects. The experimental methods uncovered only large effects.

CL-VARIOUS	VARIOUS
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
NAS	NATIONAL ACADEMY OF SCIENCES

ATSDR-PROFILES
Toxicological Profile for ...
ATSDR
Various dates, Length varies, ATSDR/TP-88-07, Available from NTIS

Abstract: The ATSDR Toxicological Profiles are intended to characterize succinctly the toxicological and health effects information for the substances named. They identify and review the key literature. More comprehensive sources of specialty information are referenced. The profiles begin with a public health statement, which describes in nontechnical language the substances' relevant toxicological properties. Following the statement is material that presents levels of significant human exposure and, where known, significant health effects. The adequacy of information to determine the substances' health effects is described. Research gaps in toxicologic and health effects information are described. Research gaps that are of significance to the protection of public health will be identified in a separate effort. The focus of the documents is on health and toxicological information. Contact NTIS for stock number and price of individual profiles (see introduction for ordering information).

ATSDR	AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
106-46-7	DICHLOROBENZENE,1,4-
67-66-3	CHLOROFORM
7440-02-2	NICKEL
7440-41-7	BERYLLIUM
86-30-6	N-NITROSODIPHENYLAMINE

CA01-SS-88-01
Polycyclic Aromatic Hydrocarbons (PAH): A Candidate Toxic Air Contaminant
CALIFORNIA AIR RESOURCES BOARD
Ralph Propper, Air Resources Board
03/01/88, 9 pages

CA01	CALIFORNIA AIR RESOURCES BOARD
CL-PAH	POLYCYCLIC AROMATIC HYDROCARBONS
EA	EXPOSURE ASSESSMENT
HA	HEALTH ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY

CA01-SS-88-02
Formaldehyde: A Candidate Toxic Air Contaminant
CALIFORNIA AIR RESOURCES BOARD
Barbara Fry, Tom Parker - Air Resources Board
03/01/88, 9 pages

CA01	CALIFORNIA AIR RESOURCES BOARD
EA	EXPOSURE ASSESSMENT
HA	HEALTH ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
50-00-0	FORMALDEHYDE

CA01-03
Public Hearing to Consider the Adoption of a Regulatory Amendment
Identifying Carbon Tetrachloride as a Toxic Air Contaminant
CALIFORNIA AIR RESOURCES BOARD
Air Resources Board/Dept. of Health Services
02/01/87

CA01	CALIFORNIA AIR RESOURCES BOARD
PD	AIR TOXICS CONTROL PROGRAM SUPPORT DOCUMENT
RA	RISK ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
56-23-5	CARBON TETRACHLORIDE

CA01-2
Proposed Hexavalent Chromium Control Plan
CALIFORNIA AIR RESOURCES BOARD
ARB
01/04/88, 40 pages

CA01	CALIFORNIA AIR RESOURCES BOARD
CT	CONTROL TECHNOLOGY DOCUMENT
PD	AIR TOXICS CONTROL PROGRAM SUPPORT DOCUMENT
STATE/LOC	STATE OR LOCAL AGENCY
18540-29-9	CHROMIUM (VI) COMPOUNDS

CA01-4
Public Hearing to Consider the Adoption of a Regulatory Amendment
Identifying Ethylene Oxide as a Toxic Air Contaminant
CALIFORNIA AIR RESOURCES BOARD
Air Resources Board/Dept. of Health Services
09/25/87

CA01	CALIFORNIA AIR RESOURCES BOARD
PD	AIR TOXICS CONTROL PROGRAM SUPPORT DOCUMENT
RA	RISK ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
75-21-8	ETHYLENE OXIDE

CA0188001
Proposed Airborne Toxic Control Measure for Emissions of Benzene
from Retail Service Stations - Addendum
CALIFORNIA AIR RESOURCES BOARD
ARB
09/29/87, 30 pages

CA01	CALIFORNIA AIR RESOURCES BOARD
CT	CONTROL TECHNOLOGY DOCUMENT
PD	AIR TOXICS CONTROL PROGRAM SUPPORT DOCUMENT
STATE/LOC	STATE OR LOCAL AGENCY
55	AUTOMOTIVE DEALERS & SERVICE STATIONS
554	GASOLINE SERVICE STATIONS
5541	GASOLINE SERVICE STATIONS
71-43-2	BENZENE

GPO 055-000-00278-9
Supplement B to Compilation of Air Pollutant Emission Factors,
AP-42, Fourth Edition
EPA
Sep 88, 182p, EPA AP-42, Supplement B. $8.00
PB89-128631/REB, PC A08/MF A01

Abstract: In this Supplement to the Fourth Edition of AP-42, new or revised emissions data are presented for bituminous and subbituminous coal combustion; anthracite coal combustion; residential woodstoves; waste oil combustion; refuse combustion; sewage sludge incineration; surface coating; polyester resin plastics product fabrication; soap and detergents; grain elevators and processing plants; lime manufacturing; crushed stone processing; western surface coal mining; wildfires and prescribed burning; unpaved roads; aggregate handling and storage piles; industrial paved roads; industrial wind erosion; and Appendix C.3, "Silt Analysis Procedures."

CL-FUELOIL	WASTE DERIVED FUEL OIL EMISSIONS
CL-PLAS	PLASTICIZERS
CL-PM	PARTICULATE MATTER
CL-SEWSLUD	SEWAGE SLUDGE
CL-VOC	VOLATILE ORGANIC COMPOUNDS
CL-WOOD	WOOD SMOKE
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
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0723	CROP PREPARATION SERVICES FOR MARKET
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142	CRUSHED AND BROKEN STONE
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4221	FARM PRODUCT WAREHOUSING AND STORAGE

GPO 055-000-00278-9 (continued)

49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
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515	FARM-PRODUCT RAW MATERIALS
5153	GRAIN

HEEP

Health and Environmental Effects Profile for ...
EPA, Cincinnati, OH, ECAO
Various dates, Length varies, Available from NTIS

Abstract: The Health and Environmental Effects profiles are prepared by the Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH, for the Office of Solid Waste to support listings of hazardous constituents of a wide range of waste streams under Section 3001 of the Resource Conservation and Recovery Act (RCRA). Both published literature and information obtained from Agency program office files are evaluated as they pertain to potential human health, aquatic life, and environmental effects of hazardous waste constituents. Quantitative estimates are presented provided sufficient data are available. Contact NTIS for stock number and price of individual profiles (see introduction for ordering information).

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CL-BROM	BROMINE COMPOUNDS
CL-CREOSOL	CREOSOLS
CL-DIOXIN	DIOXINS
CL-FURAN	FURANS
CL-PHTH	PHTHALATES
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100-00-5	CHLORONITROBENZENE,4-
100-01-6	NITROANILINE,P-
100-02-7	NITROPHENOL,P-
100-21-0	TEREPHTHALIC ACID
100-25-4	DINITROBENZENE,P
100-40-3	VINYLCYCLOHEXENE,4-
100-41-4	ETHYL BENZENE
100-42-5	STYRENE
100-44-7	BENZYL CHLORIDE
100-52-7	BENZALDEHYDE
10034-93-2	HYDRAZINE SULFATE
101-55-3	BROMOPHENYLPHENYLETHER,4-
101-61-1	METHYLENEDIMETHYLANILINE,4,4'-,BIS,N
101-68-8	DIPHENYLMETHANE-4,4'-DIISOCYANATE
101-77-9	METHYLENEDIANILINE,4,4'-
103-33-3	AZOBENZENE
103-69-5	ANILINE, N-ETHYL
105-67-9	DIMETHYLPHENOL,2,4-
106-37-6	BENZENE,1,4-DIBROMO-
106-42-3	XYLENE,P-
106-43-4	CHLOROTOLUENE,P-
106-49-0	TOLUIDINE,P-
106-50-3	PHENYLENEDIAMINE,P-
106-89-8	EPICHLOROHYDRIN

HEEP (continued)

106-93-4	ETHYLENE DIBROMIDE
106-99-0	BUTADIENE,1,3-
107-02-8	ACROLEIN
107-04-0	ETHANE, 1-BROMO-2-CHLORO-
107-05-1	CHLOROPRENE,3-
107-06-2	ETHYLENE DICHLORIDE
107-12-0	PROPIONITRILE
107-13-1	ACRYLONITRILE
107-18-6	ALLYL ALCOHOL
107-20-0	CHLOROACETALDEHYDE
108-31-6	MALEIC ANHYDRIDE
108-38-3	XYLENE,M-
108-41-1	TOLUIDINE,M-
108-41-8	CHLOROTOLUENE,M-
108-45-2	PHENYLENEDIAMINE,M-
108-68-9	DIMETHYLPHENOL,3,5-
108-86-1	BROMOBENZENE
108-87-2	METHYLCYCLOHEXANE
108-93-0	CYCLOHEXANOL
108-95-2	PHENOL
109-69-3	BUTYLCHLORIDE,N-
109-77-3	MALONONITRILE
109-86-4	METHOXYETHANOL,2-
110-49-6	ETHYLENE GLYCOL METHYL ETHER ACETATE
110-57-6	BUTENE, (E)-1,4-DICHLORO-2-
110-80-5	ETHOXYETHANOL,2-
110-86-1	PYRIDINE
11069-19-5	BUTENE, DICHLORO-
111-15-9	ETHOXYETHYLACETATE,2-
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1163-19-5	DECABROMODIPHENYL OXIDE
118-75-2	CHLORANIL
119-90-4	DIMETHOXYBENZIDINE,3,3'-
119-93-7	DIMETHYLBENZIDINE,3,3'-
1198-27-2	NAPHTHOL,2-,1-AMINO-, HYDROCHLORIDE
120-12-7	ANTHRACENE
120-61-6	DIMETHYL TEREPHTHALATE
121-69-7	DIMETHYLANILINE,N,N-
121-75-5	MALATHION
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12122-67-7	ZINEB
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123-30-8	AMINOPHENOL,P-
123-63-7	PARALDEHYDE
124-09-4	DIAMINOHEXANE,1,6-
12427-38-2	MANEB
126-99-8	CHLOROBUTADIENE,2-,1,3-
129-00-0	PYRENE

HEEP (continued)

130-15-4	NAPHTHOQUINONE,1,4-
1300-71-6	XYLENOL
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1309-64-4	ANTIMONY OXIDE
1314-62-1	VANADIUM PENTOXIDE
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152-20-5	PHOSPHOROTHIOIC ACID, O,O,S-TRIMETHYL ES
156-59-2	DICHLOROETHYLENE,1,2-,CIS-
156-60-5	DICHLOROETHYLENE,1,2-,TRANS-
1563-66-2	CARBOFURAN
1582-09-8	TRIFLURALIN
15972-60-8	ALACHLOR
16071-86-6	DIRECT BROWN 95
16136-84-8	PROPENE, 1-CHLORO-(Z)
1615-80-1	DIETHYLHYDRAZINE,1,2-
1689-84-5	BROMOXYNIL
1746-01-6	TETRACHLORODIBENZODIOXIN,2,3,7,8-,P-
1861-32-1	DACTHAL
1861-40-1	BENEFIN
1897-45-6	CHLOROTHALONIL
191-24-2	BENZO (GHI) PERYLENE
1912-24-9	ATRAZINE
1918-16-7	PROPACHLOR
1929-77-7	VERNOLATE
1937-37-7	DIRECT BLACK 38
19408-74-3	HEXACHLORODIBENZODIOXIN,1,2,3,7,8,9-
2008-41-5	BUTYLATE
207-08-9	BENZO (K) FLUORANTHENE
2104-96-3	BROMOPHOS
21232-47-3	TCAOB
21436-96-4	DIMETHYLANILINE HYDROCHLORIDE,2,4-
21564-17-0	TCMTB
21725-46-2	CYANAZINE
218-01-9	CHRYSENE
21923-23-9	CHLORTHIOPHOS
2212-67-1	MOLINATE
22248-79-9	STIROFOS
2303-16-4	DIALLATE
2303-17-5	TRIALLATE
2425-06-1	CAPTAFOL
2429-74-5	DIRECT BLUE 15

HEEP (continued)

2491-38-5	BUSAN 90
25321-14-6	DINITROTOLUENE
25323-30-2	DICHLOROETHENE
25376-45-8	DIAMINOTOLUENE
2602-46-2	DIRECT BLUE 6
2610-05-1	DIRECT BLUE 1
26399-36-0	PROFLURALIN
2834-92-6	NAPHTHOL,2-,1-AMINO-
2921-88-2	CHLOROPYRIFOS
298-00-0	METHYL PARATHION
299-84-3	RONNEL
302-01-2	HYDRAZINE
30560-19-1	ACEPHATE
30746-58-8	TETRACHLORODIBENZODIOXIN,1,2,3,4-,P-
314-40-9	BROMACIL
3149-74-4	BROMOCHLOROMETHANE-D2
3165-93-3	CHLOROTOLUIDINEHYDROCHLORIDE,4-,O-
329-71-5	DINITROPHENOL,2,5-
330-55-2	LINURON
333-41-5	DIAZINON
33820-53-0	ISOPROPALIN
3383-96-8	TEMEPHOS
34465-46-8	HEXACHLORODIBENZODIOXIN,1,2,3,6,7,8-
40487-42-1	PENDIMETHALIN
4165-57-5	BROMOBENZENE-D5
4399-55-7	DIRECT LIGHTFAST BLUE
497-56-3	DINITRO-O-CRESOL,3,5-
50-00-0	FORMALDEHYDE
51-28-5	DINITROPHENOL,2,4-
510-15-6	CHLOROBENZILATE
512-56-1	TRIMETHYL PHOSPHATE
51207-31-9	TETRACHLORODIBENZOFURAN,2,3,7,8-
528-29-0	DINITROBENZENE,O
534-52-1	DINIITROCRESOL,4,6-,O-
540-59-0	DICHLOROETHYLENE,1,2-,CIS-TRANS-
540-73-8	DIMETHYLHYDRAZINE,1,2-
542-75-6	DICHLOROPROPENE,1,3-
554-84-7	NITROPHENOL,3-
557-98-2	PROPENE, 2-CHLORO-
57-14-7	DIMETHYLHYDRAZINE,1,1-
57117-31-4	PENTACHLORODIBENZOFURAN
573-56-8	DINITROPHENOL,2,6
57653-85-7	DIBENZO-P-DIOXIN, 1,2,3,4,7,8-HEXACHLORO
590-21-6	PROPENE, 1-CHLORO-
591-27-5	AMINOPHENOL,M-
593-60-2	VINYL BROMIDE
59756-60-4	FLURIDONE
598-31-2	BROMOACETONE
598-77-6	PROPANE, 1,1,2-TRICHLORO-
60-34-4	METHYL HYDRAZINE

HEEP (continued)

60-51-5	CYGON
608-73-1	HEXACHLOROCYCLOHEXANE
60851-34-5	HEXACHLORODIBENZOFURAN
611-14-3	TOLUENE, O-ETHYL-
617-84-5	FORMAMIDE, N,N-DIETHYL-
62-53-3	ANILINE
624-83-9	METHYL ISOCYANATE
63-25-2	CARBARYL
636-21-5	TOLUIDINEHYDROCHLORIDE,O-
68-12-2	DIMETHYLFORMAMIDE,N,N-
70-30-4	HEXACHLOROPHENE
71-23-8	PROPYL ALCOHOL
72-43-5	METHOXYCHLOR
74-83-9	METHYL BROMIDE
74-87-3	METHYL CHLORIDE
74-97-5	BROMOCHLOROMETHANE
75-01-4	VINYL CHLORIDE
75-05-8	ACETONITRILE
75-15-0	CARBON DISULFIDE
75-21-8	ETHYLENE OXIDE
75-27-4	BROMODICHLOROMETHANE
75-34-3	DICHLOROETHANE,1,1-
75-35-4	DICHLOROETHYLENE,1,1-
75-52-5	NITROMETHANE
75-56-9	PROPYLENE OXIDE
75-86-5	HYDROXYMETHYLPROPANENITRILE,2-,2-
75-99-0	DALAPON
759-94-4	ETHYLDIPROPYLCARBAMSTHIOAT, S-
764-41-0	DCB
77-78-1	DIMETHYL SULFATE
7789-89-1	PROPANE, 1,1,1-TRICHLORO
78-48-8	PHOSPHOROTRIDIOIC ACID
78-59-1	ISOPHORONE
78-83-1	ISOBUTYL ALCOHOL
78-86-4	BUTANE, 2-CHLORO-
78-87-5	DICHLOROPROPANE,1,2-
78-93-3	METHYL ETHYL KETONE
79-06-1	ACRYLAMIDE
79-10-7	ACRYLIC ACID
79-20-9	METHYL ACETATE
79-46-9	NITROPROPANE,2-
80-62-6	METHYL METHACRYLATE
8018-01-7	MANCOZEB
82-68-8	PENTACHLORONITROBENZENE
834-12-8	AMETRYN
85-01-8	PHENANTHRENE
85-44-9	PHTHALIC ANHYDRIDE
86-74-8	CARBAZOLE
87-84-3	PENTABROMOCHLOROCYCLOHEXANE
87-86-5	PENTACHLOROPHENOL

HEEP (continued)

88-72-2	NITROTOLUENE,O-
88-73-3	CHLORONITROBENZENE,2-
88-74-4	NITROANILINE,O-
88-75-5	NITROPHENOL,O-
88-85-7	DINITROBUTYLPHENOL,2,4-,6-SEC-
88-89-1	PICRIC ACID
88-99-3	PHTHALIC ACID, O-
90-43-7	PHENYLPHENOL,O-
91-20-3	NAPHTHALENE
91-22-5	QUINOLINE
91-66-7	DIETHYLANILINE,N,N-
92-52-4	BIPHENYL
92-87-5	BENZIDINE
93-65-2	MCPP
93-71-0	RANDOX
94-74-6	METHYL-4-CHLOROPHENOXYACETIC ACID,2-
94-81-5	MCPB
94-82-6	DB,2,4-
95-47-6	XYLENE,O-
95-49-8	CHLOROTOLUENE,O-
95-53-4	TOLUIDINE,O-
95-54-5	PHENYLENEDIAMINE,O-
95-55-6	AMINOPHENOL,O-
95-68-1	XYLIDINE,2,4-
95-69-2	CHLOROMETHYLANILINE,4-,2-
95-70-5	DIAMINOTOLUENE,2,5-
95-80-7	DIAMINOTOLUENE,2,4-
950-10-7	MEPHOSFOLAN
96-18-4	TRICHLOROPROPANE,1,2,3-
96-31-1	DIMETHYLUREA,N,N'-
96-33-3	METHYL ACRYLATE
96-45-7	ETHYLENE THIOUREA
96-48-0	BUTYROLACTONE,4-
97-63-2	ETHYL METHACRYLATE
98-07-7	BENZOTRICHLORIDE
98-82-8	CUMENE
98-83-9	METHYL STYRENE
98-88-4	BENZOYL CHLORIDE
98-95-3	NITROBENZENE
99-08-1	NITROTOLUENE, M-
99-09-2	NITROANILINE,M-
99-55-8	NITROTOLUIDINE,5-,O-
99-59-2	NITROANISIDINE,5-,O-
99-65-0	DINITROBENZENE,1,3-
99-99-0	NITROTOLUENE,P-

IL01-86-008
The Southeast Chicago Study: An Assessment of Environmental Pollution and Public Health Impacts
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
Environmental Programs, I.E.P.A.- Daniel D'Auben, Ed.
03/01/86, 149 pages

Southeast Chicago, in the vicinity of Lake Calumet, is a heavily industrialized region that has a long history of serving as a disposal area for a wide variety of industrial, commercial, and residential wastes. In the late fall of 1982, the Illinois Environmental Protection Agency (IEPA) was asked by a citizens group, Irondalers to Abolish the Chemical Threat (I-ACT), to conduct a study of environmental pollution in this area with special emphasis directed toward waste disposal practices.
The final scope of work included a broad range of environmental concerns relating to air, water, and land pollution issues. This scope of work was reviewed and approved by the I-ACT liaison committee. Additionally, as part of the overall effort, an analysis of available health statistics was performed by the Illinois Department of Public Health (IDPH) to determine if cancer rates or the number of birth defects occurring in the area are unusual. This report summarizes the results of these study efforts.

ES	EPIDEMIOLOGY STUDY
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01-86-01
A REVIEW OF CANCER MORTALITY IN ILLINOIS AND ILLINOIS COUNTIES
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
KATHERINE MALLIN, PH.D. AND WILLIAM HAENSZEL, DR. P.H.
153 pages

This report presents findings of a cancer mortality study covering Illinois as a whole (1950 to 1979) and individual Illinois counties (1970 to 1979). The study was conducted by the Illinois Cancer Council, under a contract with the University of Illinois and the Illinois Department of Public Health to characterize cancer patterns in different regions of Illinois. Geographic analyses of cancer by race, sex, and cancer types help to identiy high risk populations. The preliminary findings in this report will assist cancer researchers and health professionals in identifying areas or populations which may require additional epidemiologic investigations, cancer control activities or further cancer incidence monitoring.

ES	EPIDEMIOLOGY STUDY
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01-86-02
A Review of Cancer Mortality in Chicago and Chicago Community Areas (1968-1982)
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
Katherine Mallin, Ph.D., and William Haenszel, Dr. P.H.
186 pages

This report presents findings of a cancer mortality study by Chicago community areas for the period 1968 to 1982. The study was conducted by the Illinois Cancer Council under a contract with the University of Illinois and the Illinois Department of Public Health to characterize cancer in different areas of Chicago. Geographic analyses of cancer by race, sex, and cancer types help to identify high risk populations. The preliminary findings in this report will assist cancer researchers and health professionals to identify areas or populations which may require additional epidemiologic investigations, cancer-control activities or further cancer incidence monitoring.

ES	EPIDEMIOLOGY STUDY
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01AAM86001
CHICAGO AIR QUALITY: PCB AIR MONITORING PLAN, PHASE 2
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
AMBIENT AIR MONITORING SECTION
04/01/86, 159 pages

A THREE STATION POLYCHLORINATED BIPHENYL (PCB) AIR SAMPLING AND ANALYSIS PROGRAM IS DESCRIBED IN THIS REPORT. THE PROGRAM WAS DESIGNED TO MEASURE PCB'S IN THE VICINITY OF A HAZARDOUS WASTE INCINERATOR THAT BURNED LIQUID AND SOLID WASTE CONTAINING PCB'S. THE OBJECTIVES OF THE SAMPLING PROGRAM, THE SAMPLING AND ANALYSIS TECHNIQUES, AND THE QUALITY ASSURANCE PROCEDURES ARE PRESENTED.

AM	AMBIENT MONITORING
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR80028

PULMONARY FUNCTION STUDY IN GRANITE CITY, ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STEPHEN K. HALL, PH.D., JOHN H. CISSIK, PH.D., MARIE MCCOWEN, M.S.
12/01/80, 82 pages

PULMONARY FUNCTION OF BOTH ADULTS AND HIGH SCHOOL STUDENTS IN GRANITE CITY, ILLINOIS, A HIGHLY INDUSTRIALIZED COMMUNITY, WAS STUDIED. ADULTS FROM THROUGHOUT THE CITY AND STUDENTS FROM TWO HIGH SCHOOLS, ONE IN A MUCH LESS INDUSTRIALIZED REGION OF THE CITY THAN THE OTHER, WERE TESTED, AND ALL OF THE GROUPS' RESULTS WERE COMPARED TO NATIONAL NORMS. IN ADDITION, THE STUDENTS AT THE TWO HIGH SCHOOLS WERE COMPARED TO ONE ANOTHER.
THE RESULTS SHOW LITTLE DIFFERENCE IN THE ADULTS' PULMONARY FUNCTION VERSUS NATIONAL NORMS, BUT SHOWS PULMONARY FUNCTION FOR STUDENTS AT BOTH HIGH SCHOOLS TO BE SIGNIFICANTLY BELOW NATIONAL AVERAGES, WITH STUDENTS AT THE HIGH SCHOOL IN THE MORE INDUSTRIALIZED REGION OF THE CITY WITH LOWER PULMONARY FUNCTION THAN THOSE IN THE LESS INDUSTRIALIZED REGION OF THE CITY.

HA	HEALTH ASSESSMENT
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR81012

SCREENING OF PESTICIDES AND OTHER TOXIC CHEMICALS FOR POTENTIAL ADVERSE ENVIRONMENTAL EFFECTS IN ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
B. MAGNUS FRANCIS AND ROBERT L. METCALF
03/01/81, 52 pages

A TERRESTRIAL-AQUATIC ECOSYSTEM WAS USED TO DETERMINE EFFECTS OF EPN, METHOMYL, BENEFIN, LINURON, MONURON, ORYZALIN, SIMAZINE, TERBACIL, BENOMYL, CHLORONEB, AND PCNB. THE LABORATORY SYSTEM CONTAINED SAND, WATER, NUTRIENTS, SORGHUM, CATERPILLARS, ALGAE, SNAILS, DAPHNIA, MOSQUITO LARVAE, AND FISH. SPECIFIC EFFECTS STUDIED WERE THE NATURE OF THE BIOLOGICAL EFFECTS ON THE ORGANISMS, THE NATURE OF DEGRADATIVE PATHWAYS AND MAGNITUDES OF DEGRADATIVE PRODUCTS, THE BIOCONCENTRATION AND ECOLOGICAL MAGNIFICATION (EM) OF PARENT COMPOUNDS AND DEGRADATION PRODUCTS IN LIVING ORGANISMS, AND THE QUANTITATIVE ESTIMATION OF PERSISTENCE AND BIODEGRADABILITY.

IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY
TT	TOXICITY TESTING

IL01ENR81013

A REVIEW OF CONCENTRATIONS, CHEMICAL COMPOSITION, SIZE DISTRIBUTION AND HEALTH EFFECTS RELATED TO INORGANIC INHALABLE PARTICULATES IN ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
SHERMAN U. SMITH, D.J. FINGLETON, AND TERRI-LYNN OZAKI GEDO
04/01/81, 145 pages

THIS STUDY PRESENTS AN ANALYSIS OF CURRENT AND HISTORIC DATA ON THE CONCENTRATIONS, SIZE DISTRIBUTIONS, AND CHEMICAL COMPOSITIONS OF THE INORGANIC INHALABLE FRACTION OF SUSPENDED PARTICULATE MATTER COLLECTED IN SELECTED AREAS OF ILLINOIS, A REVIEW OF THE LITERATURE ON THE HUMAN HEALTH EFFECTS OF INORGANIC INHALABLE PARTICULATES AND RECOMMENDATIONS FOR STUDIES THAT SHOULD BE UNDERTAKEN TO DEFINE FURTHER THE EFFECTS OF INORGANIC INHALABLE PARTICULATES ON THE HEALTH OF THE RESIDENTS OF ILLINOIS.

IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
OT	OTHER
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR81019

DIRECT AND INDIRECT EMISSIONS PRODUCTION BY URBAN TRUCK MOVEMENT IN THE CHICAGO REGION
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
FRANK SOUTHWORTH AND KYUNG S. CHON
06/01/81, 55 pages

AN ACCOUNTING PROCEDURE IS DEVELOPED TO ESTIMATE THE GRAMS OF HYDROCARBONS, CARBON MONOXIDE, AND NITROGEN OXIDES PRODUCED BY WEEKDAY URBAN TRUCKING ACTIVITIES. THE PROCEDURE IS APPLIED TO THE URBAN TRUCKING INDUSTRY OF THE CHICAGO STANDARD CONSOLIDATED STATISTICAL AREA. 1970 AND 1980 REGIONWIDE EMISSIONS ESTIMATES ARE PRODUCED. THE 1970 EMISSIONS ACCOUNTS ARE BROKEN DOWN BY COMMODITY CLASS, TRUCK GROSS VEHICLE WEIGHT AND FUEL (GASOLINE VERSUS DIESEL) TYPES AND BY TRUCK TERMINAL DISTRICT. REGIONWIDE WEEKDAY PARTICULATES AND SULFUR DIOXIDE PRODUCTIONS ARE ALSO ESTIMATED. TRUCK TRIP LENGTHS AND THE NATURE OF TRUCK ROUTING PATTERNS ARE SHOWN TO HAVE SIGNIFICANT IMPACTS UPON AVERAGE EMISSION RATES: SUGGESTING THE OPPORTUNITY FOR CONSIDERABLE EMISSIONS REDUCTIONS THROUGH BETTER DAILY ROUTING PRACTICES.

IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR81040
SCREENING OF PESTICIDES FOR POTENTIAL ADVERSE ENVIRONMENTAL EFFECTS IN ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
B. MAGNUS FRANCIS, AND ROBERT L. METCALF
12/01/81, 98 pages

A TERRESTRIAL-AQUATIC ECOSYSTEM WAS USED TO DETERMINE EFFECTS OF EPN, ETHOPROP, ISOFENPHOS, METHIDATHION, METHOMYL, BENEFIN, BENSULIDE, BUTYLATE, CHLORAMBEN, CHLORPROPHAM,CYCLOATE, DICHLOBENIL, DIPHENAMIDE, LINURON, MONURON, ORYZALIN, SIMAZINE, TERBACIL, VERNOLATE, ANILAZINE, BENOMYL, CAPROFOL, CARBOXIN, CHLORONEB, FENAMINOSULF, AND PCNB. THE LABORATORY SYSTEM CONTAINED SAND, WATER, NUTRIENTS, SORGHUM, CATERPILLARS, ALGAE, SNAILS, DAPHNIA, MOSQUITO LARVAE, AND FISH. SPECIFIC EFFECTS STUDIED WERE THE NATURE OF THE BIOLOGICAL EFFECTS ON THE ORGANISMS, THE NATURE OF DEGRADATIVE PATHWAYS AND MAGNITUDES OF DEGRADATIVE PRODUCTS, THE BIOCONCENTRATION AND ECOLOGICAL MAGNIFICATION (EM) OF PARENT COMPOUNDS AND DEGRADATION PRODUCTS IN LIVING ORGANISMS, AND THE QUANTIVATIVE ESTIMATION OF PERSISTENCE AND BIODEGRADABILITY.

IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY
16752-77-5	METHOMYL
2104-64-5	EPN
2675-77-6	CHLORONEB
82-68-8	PENTACHLORONITROBENZENE

IL01ENR82001
FLUORIDE IN ILLINOIS: SOURCES, ENVIRONMENTAL AND HEALTH EFFECTS, AND A PROPOSED AMBIENT STANDARD
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
DEE M. BUCKLER AND WARREN U. BRIGHAM
01/01/82, 84 pages

THIS DOCUMENT REPRESENTS A STATE-OF-THE-KNOWLEDGE REPORT ON FLUORIDE. A REVIEW OF ALL POTENTIAL SOURCES OF FLUORIDE IN ILLINOIS (INCLUDING INDUSTRY), AN EVALUATION OF THE HAZARDS POSED TO HUMANS AND THE ENVIRONMENT BY AIR-BORNE FLUORIDE IN ILLINOIS, AND A PROPOSED AMBIENT STANDARD.

THREE NATURAL SOURCES (SOIL, WATER, AND VOLCANOES AND FUMEROLES) AND EIGHT MAN-MADE SOURCES (IRON AND STEEL MANUFACTURING, PHOSPHATE FERTILIZER PRODUCTION, COMBUSTION OF COAL, CEMENT PRODUCTION, HYDROGEN FLUORIDE PRODUCTION, GLASS MANUFACTURING, WET PHOSPHORIC ACID MANUFACTURING, AND FLUORIDATION OF WATER) ARE IDENTIFIED AS SOURCES OF FLUORIDE TO THE ATMOSPHERE.

THE EFFECTS OF FLUORIDE UPON PLANTS, WILDLIFE, INSECTS, AND DOMESTIC ANIMALS ARE DISCUSSED IN DETAIL. A SEPARATE SECTION ON THE HEALTH EFFECT OF FLUORIDE CONSIDERS PATHWAYS BY WHICH FLUORIDE ENTERS THE BODY AND CONSIDERS THE DELETERIOUS EFFECTS OF THESE FLUORIDES.

IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
OT	OTHER
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR84010

A PILOT STUDY OF CANCER SURVEILLANCE IN CENTRAL ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
DR. RICHARD B. WARNECKE AND ARLENE ALEXANDER, M.D., M.PH.
10/01/84, 45 pages

CANCER SURVEILLANCE PROGRAMS ARE BEING ESTABLISHED IN MANY STATES IN ORDER TO DETERMINE THE MAGNITUDE OF THE CANCER EXPERIENCE AT A LEVEL WHERE POLICY AND HEALTH PROGRAMS CAN RESPOND TO RESTRAIN ITS OCCURRENCE AND MODIFY ITS EFFECTS. ILLINOIS HAS NOT DEVELOPED A CANCER SURVEILLANCE PROGRAM SO THERE IS NO PRECISE COUNT OF HOW MANY NEW CANCER PATIENTS ARE DIAGNOSED IN THE ILLINOIS POPULATION EACH YEAR. FROM THE EXPERIENCE OF OTHER SIMILAR STATES AND BASED ON DATA OBTAINED THROUGH THE SURVEILLANCE, EPIDEMILOGY AND END RESULTS (SEER) PROGRAM AT THE NATIONAL CANCER INSTITUTE (NCI) WE ESTIMATE THAT ABOUT 44,000 NEW CASES WILL BE DIAGNOSED AMONG THE ILLINOIS POPULATION IN 1984. TO ADDRESS THE NEED TO KNOW MORE ABOUT THE EXPERIENCE OF CANCER AMONG THE POPULATION OF ILLINOIS, THE ILLINOIS DEPARTMENT OF ENERGY AND NATURAL RESOURCES, WORKING TOGETHER WITH THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH CONTRACTED WITH THE ILLINOIS CANCER COUNCIL IN 1980-81 TO CONDUCT A FEASIBILITY STUDY TO DETERMINE WHETHER CANCER REPORTING COULD BE CARRIED OUT IN ILLINOIS AND WHICH OF SEVERAL POSSIBLE METHODS OF CASE ASCERTAINMENT WOULD BE MOST EFFECTIVE. BASED ON THE EXPERIENCE OF OTHERS AND OUR REVIEW OF THE FEASIBILITY OF EACH APPROACH, IT WAS RECOMMENDED THAT THE CASE REGISTRATION APPROACH BE SUBJECTED TO FURTHER STUDY.

HA	HEALTH ASSESSMENT
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01ENR87021

RISK ASSESSMENT OF EXPOSURE TO WATERBORNE AND AIRBORNE RADON-222 IN ILLINOIS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
WILLIAM H. HALLENBECK, PH.D.
12/01/87, 70 pages

THIS STUDY ANALYZED EPIDEMIOLOGICAL AND EXPERIMENTAL ANIMAL STUDIES IN ORDER TO DEVELOP EXPOSURE-RESPONSE RELATIONSHIPS FOR RADON-INDUCED CANCER. THESE RELATIONSHIPS WERE USED TO ESTIMATE LIFETIME RISKS AND ANNUAL EXCESS CASES BASED ON THE AVAILABLE WATERBORNE AND AIRBORNE DATA FOR ILLINOIS. EXCEEDANCES OF THE USEPA ACTION LEVEL OF 4 PCI/L OCCURRED IN 13% OF 303 FIRST FLOOR MEASUREMENTS AND 43% OF 1095 BASEMENT MEASUREMENTS.

FOR WATERBORNE RADON, THE HIGHEST LIFETIME RISK OF CANCER MORTALITY ASSOCIATED WITH AN ILLINOIS GROUNDWATER-BASED DRINKING WATER SYSTEM WAS ESTIMATED TO BE 4 X 10 - 4. THE NUMBER OF EXCESS CASES OF FATAL CANCER GENERATED PER YEAR IN ILLINOIS WAS ESTIMATED TO BE ABOUT SIX. FOR AIRBORNE RADON, A TENTATIVE VALUE OF 0.9 PCI/L (FOR FIRST FLOORS), DERIVED FROM THE LIMITED EXISTING DATA, WAS USED TO ESTIMATE THE AVERAGE LIFETIME LUNG CANCER MORTALITY RISK AND THE NUMBER OF EXCESS CASES OF FATAL LUNG CANCER GENERATED PER YEAR. THE AVERAGE LIFETIME LUNG CANCER MORTALITY RISK WAS ESTIMATED TO BE 0.0048, AND THE ANNUAL NUMBER OF EXCESS CASES OF FATAL LUNG CANCER WAS ESTIMATED TO BE 784. DUE TO THE NATURE OF THE UNDERLYING EXPOSURE-RESPONSE RELATIONSHIPS FOR RADON-INDUCED CANCER, THE VALUES PRESENTED MOST LIKELY REPRESENT UPPER-BOUND ESTIMATES.

ES	EPIDEMIOLOGY STUDY
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
RA	RISK ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
10043-92-2	RADON

IL01ENR88014
CONTROL OF EMISSIONS FROM MUNICIPAL SOLID WASTE INCINERATORS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
F. THOMAS DEPAUL, PH.D.; JERRY W. CROWDER, PH.D., P.E.
07/01/88, 237 pages

THIS REPORT HAS BEEN PREPARED TO IDENTIFY THOSE MUNICIPAL SOLID WASTE INCINERATION EMISSIONS WHICH POSE THE GREATEST POTENTIAL HUMAN HEALTH RISKS AND TO DOCUMENT WHICH EXISTING CONTROL SCENARIOS HAVE THE BEST DEMONSTRATED PERFORMANCE IN REDUCING THESE EMISSIONS. THE INFORMATION IS PRESENTED IN AN EFFORT TO FACILITATE BACT DETERMINATIONS FOR THESE SOURCES. A SURVEY OF STATE AIR TOXIC REGULATIONS WAS UNDERTAKEN TO DETERMINE THE IMPACT OF HEALTH BASED REGULATIONS ON MSW INCINERATOR EMISSIONS AND TO HELP IDENTIFY THE POLLUTANT EMISSIONS OF GREATEST CONCERN. THE POLLUTION CONTROL SCENARIOS ARE PRESENTED AND DISCUSSED. INFORMATION ON UNCONTROLLED AND CONTROLLED EMISSIONS HAS BEEN COLLECTED FOR 61 INCINERATION FACILITIES, ENCOMPASSING MASS BURN, STARVED AIR, AND RDF-FIRED COMBUSTION TECHNOLOGY. DATA HAVE BEEN ANALYZED TO DETERMINE EXPECTED EMISSIONS LEVELS FOR BOTH CRITERIA AND NON-CRITERIA POLLUTANTS, AND TO DETERMINE EXPECTED CONTROL LEVELS. DATA ON THE COST OF CONTROL EQUIPMENT FOR EACH TYPE OF COMBUSTOR ARE INCLUDED. THE IMPACT OF SEVERAL ALTERNATIVE CONTROL SCENARIOS ON THE REDUCTION OF THOSE POLLUTANTS WITH THE HIGHEST POTENTIAL RISK TO HUMAN HEALTH ARE DISCUSSED.

CT	CONTROL TECHNOLOGY DOCUMENT
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IL01EPA84103
A MULTI-MEDIA RISK ANALYSIS OF LEAD EXPOSURE FROM SECONDARY LEAD SMELTER EMISSIONS, AND RESULTING REMEDIAL ACTIONS
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
THOMAS J. BIERMA, STEPHEN A. TAMPLIN, SUE A. RAMIREZ, CHRIS J. WIANT, AND GARETH R. JOHNSON
01/01/84, 16 pages

THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) BEGAN MONITORING AMBIENT AIR LEAD LEVELS IN 1978 IN THE VICINITY OF A SECONDARY LEAD SMELTER IN GRANITE CITY, ILLINOIS. A TWO PART STUDY WAS DESIGNED. IN THE FIRST PART, ENVIRONMENTAL SAMPLES WERE TAKEN TO DETERMINE THE APPROXIMATE LEAD EXPOSURE LEVELS TO RESIDENTS IN THE AREA FROM A VARIETY OF MEDIA: AIR, DRINKING WATER, SOIL AND GARDEN VEGETABLES. THESE DATA WERE THEN USED TO ESTIMATE BLOOD-LEAD LEVELS, WHICH IN TURN COULD BE RELATED TO THE RISK OF ADVERSE HEALTH EFFECTS. THE SECOND PART OF THE STUDY INVOLVED MEASURING ACTUAL BLOOD-LEAD LEVELS IN COMMUNITY MEMBERS AND OBTAINING ADDITIONAL INFORMATION FROM THESE INDIVIDUALS CONCERNING OTHER SOURCES OF LEAD EXPOSURE SUCH AS THE HOME OR WORK ENVIRONMENT. A DUST SAMPLE FROM THE HOUSEHOLDS WAS ALSO TAKEN AND THE CONDITION OF PAINTED SURFACES IN THE HOME NOTED. FINALLY, THE RESULTS OF THESE TWO PARTS OF THE STUDY WERE EVALUATED TO DETERMINE IF SEVERE REMEDIAL ACTION WAS REQUIRED.

AM	AMBIENT MONITORING
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY
33	PRIMARY METAL INDUSTRIES
334	SECONDARY NONFERROUS METALS
3341	SECONDARY NONFERROUS METALS
7439-92-1	LEAD POWDER

IL010010
CHICAGO AIR QUALITY: PCB AIR MONITORING PLAN : PHASE 2
ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
ILLINOIS EPA , AIR MONITORING SECTION
02/01/86

A THREE STATION POLYCHLORINATED BIPHENYL (PCB) AIR SAMPLING AND ANALYSIS PROGRAM IS DESCRIBED IN THIS REPORT. THE PROGRAM WAS DESIGNED TO MEASURE PCB'S IN THE VICINITY OF A HAZARDOUS WASTE INCINERATOR THAT BURNED LIQUID AND SOLID WASTE CONTAINING PCB'S. THE OBJECTIVE OF THE SAMPLING PROGRAM, THE SAMPLING AND ANALYSIS TECHNIQUES, AND THE QUALITY ASSURANCE PROCEDURES ARE PRESENTED.

AM	AMBIENT MONITORING
IL01	ILLINOIS ENV PROT. AGENCY, DIV. OF AIR POLLUTION CONTROL
STATE/LOC	STATE OR LOCAL AGENCY

IN0301
ROCK ISLAND REFINING CORPORATION AIR TOXIC SAMPLE RESULTS
INDIANAPOLIS AIR POLLUTION CONTROL DIVISION
CHERYL CARLSON
06/01/89, 88 pages

AM	AMBIENT MONITORING
HA	HEALTH ASSESSMENT
IN03	INDIANAPOLIS AIR POLLUTION CONTROL DIVISION
SA	SOURCE ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
100-41-4	ETHYL BENZENE
106-93-4	ETHYLENE DIBROMIDE
107-06-2	ETHYLENE DICHLORIDE
108-88-3	TOLUENE
108-90-7	MONOCHLOROBENZENE
127-18-4	TETRACHLOROETHYLENE
29	PETROLEUM AND COAL PRODUCTS
291	PETROLEUM REFINING
2911	PETROLEUM REFINING
56-23-5	CARBON TETRACHLORIDE
67-66-3	CHLOROFORM
71-43-2	BENZENE
71-55-6	TRICHLOROETHANE,1,1,1-
74-83-9	METHYL BROMIDE
75-01-4	VINYL CHLORIDE
75-09-2	METHYLENE CHLORIDE
75-69-4	FLUOROTRICHLOROMETHANE
78-87-5	DICHLOROPROPANE,1,2-
79-01-6	TRICHLOROETHYLENE
95-47-6	XYLENE,O-

MA0185002
The Chemical Health Effects Assessment Methodology and the Method to Derive Acceptable Ambient Levels (CHEM and AAL)
The Department of Environmental Quality Engineering
MA DEPT OF ENV. QUALITY ENG.,DIV. OF AIR QUALITY CONTROL
06/01/85, 600 pages

The Chemical Health Effects Assessment Methodology (CHEM) and the process which composes the health basis of the Massachusetts Department of Environmental Quality Engineering air toxics program are described. Using valid epidemiological, clinical, and experimental data from primary sources and peer-reviewed secondary sources, CHEM systematically identifies and evaluates the following potential adverse health effects of chemical substances: acute/chronic toxicity, carcinogenicity, mutagenicity, and developmental/reproductive toxicity. The method to derive AALs establishes ambient air levels for specific chemical substances based on the health data provided by CHEM; the health data are incorporated through a series of adjustment and safety factors applied to selected occupational limits to provide protection for the general public against continuous exposure and to account for gaps and inadequacies in the data. The Department believes that CHEM and AAL offers a viable tool for protecting public health and decreasing risk from effects of exposure to toxic air pollutants.

HA	HEALTH ASSESSMENT
MA01	MA DEPT OF ENV. QUALITY ENG.,DIV. OF AIR QUALITY CONTROL
STATE/LOC	STATE OR LOCAL AGENCY
100-41-4	ETHYL BENZENE
100-42-5	STYRENE
100-44-7	BENZYL CHLORIDE
106-44-5	CRESOL,P-
106-46-7	DICHLOROBENZENE,1,4-
106-48-9	CHLOROPHENOL,P-
106-89-8	EPICHLOROHYDRIN
106-99-0	BUTADIENE,1,3-
107-06-2	ETHYLENE DICHLORIDE
107-13-1	ACRYLONITRILE
107-21-1	ETHYLENE GLYCOL
108-05-4	VINYL ACETATE
108-21-4	ISOPROPYL ACETATE
108-31-6	MALEIC ANHYDRIDE
108-38-3	XYLENE,M-
108-43-0	CHLOROPHENOL,M-
108-46-3	RESORCINOL
108-88-3	TOLUENE
108-90-7	MONOCHLOROBENZENE
108-95-2	PHENOL
109-86-4	METHOXYETHANOL,2-
109-89-7	DIETHYLAMINE
109-99-9	TETRAHYDROFURAN

MA0185002 (continued)

110-19-0	ISOBUTYL ACETATE
110-82-7	CYCLOHEXANE
117-81-7	ETHYLHEXYLPHTHALATE,BIS,2-
121-44-8	TRIETHYLAMINE
122-39-4	PHENYLBENZENAMINE,N-
123-91-1	DIOXANE,1,4-
123-92-2	ISOAMYL ACETATE
126-99-8	CHLOROBUTADIENE,2-,1,3-
127-18-4	TETRACHLOROETHYLENE
1313-99-1	NICKEL OXIDE
1314-62-1	VANADIUM PENTOXIDE
1335-32-6	LEAD ACETATE
1336-36-3	POLYCHLORINATED BIPHENYLS
13765-19-0	CALCIUM CHROMATE, ANHYDROUS
140-88-5	ETHYL ACRYLATE (INHIBITED)
141-78-6	ETHYL ACETATE
16984-48-8	FLUORIDES
1746-01-6	TETRACHLORODIBENZODIOXIN,2,3,7,8-,P-
2385-85-5	MIREX
302-01-2	HYDRAZINE
50-00-0	FORMALDEHYDE
540-59-0	DICHLOROETHYLENE,1,2-,CIS-TRANS-
56-23-5	CARBON TETRACHLORIDE
57-74-9	CHLORDANE
58-89-9	LINDANE
591-78-6	HEXANONE,2-
60-29-7	ETHYL ETHER
62-53-3	ANILINE
67-64-1	ACETONE
67-66-3	CHLOROFORM
67-68-5	DIMETHYL SULFOXIDE
67-72-1	HEXACHLOROETHANE
68-12-2	DIMETHYLFORMAMIDE,N,N-
70-30-4	HEXACHLOROPHENE
71-23-8	PROPYL ALCOHOL
71-36-3	BUTYL ALCOHOL
71-43-2	BENZENE
71-55-6	TRICHLOROETHANE,1,1,1-
74-83-9	METHYL BROMIDE
74-85-1	ETHYLENE
7439-92-1	LEAD POWDER
7440-02-2	NICKEL
7440-41-7	BERYLLIUM
7440-43-9	CADMIUM
7440-47-3	CHROMIUM
7446-34-6	SELENIUM SULFIDE
75-00-3	CHLOROETHANE
75-01-4	VINYL CHLORIDE
75-05-4	VINYLIDENE CHLORIDE
75-07-0	ACETALDEHYDE

MA0185002 (continued)

75-09-2	METHYLENE CHLORIDE
75-56-9	PROPYLENE OXIDE
76-12-0	TETRACHLORODIFLUOROETHANE,1,1,2,2-,1,2-
76-44-8	HEPTACHLOR
7664-39-3	HYDROGEN FLUORIDE
7664-41-7	AMMONIA
7782-49-2	SELENIUM COMPOUNDS, AS SE
7782-50-5	CHLORINE
7783-06-4	HYDROGEN SULFIDE
78-83-1	ISOBUTYL ALCOHOL
78-87-5	DICHLOROPROPANE,1,2-
79-00-5	TRICHLOROETHANE,1,1,2-
79-01-6	TRICHLOROETHYLENE
79-34-5	TETRACHLOROETHANE,1,1,2,2-
80-62-6	METHYL METHACRYLATE
85-44-9	PHTHALIC ANHYDRIDE
87-86-5	PENTACHLOROPHENOL
91-20-3	NAPHTHALENE
92-52-4	BIPHENYL
95-50-1	DICHLOROBENZENE,1,2-
95-95-4	TRICHLOROPHENOL,2,4,5-
96-33-3	METHYL ACRYLATE
98-95-3	NITROBENZENE

NTP-STUDIES

Toxicology and Carcinogenesis Studies of...
NTP, Research Triangle Park, NC
Various dates, Length varies, Available NTIS

Abstract: NTP performs studies on the toxicology and carcinogenicity of a number of chemicals. The following list of chemicals are those for which a report has been printed and is available through NTIS (see the introduction for ordering information). In many cases, the title begins "Toxicology and Carcinogenesis Studies of (Chemical Name)..."

CL-DIESEL	DIESEL FUEL EMISSIONS
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NTP	NATIONAL TOXICOLOGY PROGRAM
TT	TOXICITY TESTING
100-40-3	VINYLCYCLOHEXENE,4-
101-61-1	METHYLENEDIMETHYLANILINE,4,4'-,BIS,N
101-90-6	DIGLYCIDYLRESORCINOL ETHER
102-50-1	CRESIDINE,M-
102-96-5	NITROSTYRENE,BETA-
103-23-1	BIS(2-ETHYLHEXYL) ADIPATE
103-33-3	AZOBENZENE
105-11-3	P-QUINONE DIOXIME
106-88-7	EPOXYBUTANE,1,2-
107-07-3	CHLOROETHANOL,2-
108-60-1	CHLOROMETHYLETHYLETHER,B!S,2-,1-
108-78-1	MELAMINE
11097-69-1	AROCLOR 1254
115-28-6	CHLORENDIC ACID
115-32-2	DICOFOL
117-79-3	AMINOANTHRAQUINONE,2-
120-61-6	DIMETHYL TEREPHTHALATE
120-62-7	PIPERONYL SULFOXIDE
120-71-8	CRESIDINE,P-
121-66-4	AMINONITROTHIAZOLE,2-,5-
124-64-1	HYDROXYMETHYLPHOSPHONIUMCHLORIDE,TETRA
126-72-7	DIBROMOPROPYLPHOSPHATE,TRIS,2,3-
1330-20-7	XYLENE
1332-21-4	ASBESTOS
134-29-2	ANISIDINE HYDROCHLORIDE,O-
135-20-6	CUPFERRON
137-30-4	ZIRAM
139-13-9	NITRILOTRIACETIC ACID
140-11-4	BENZYL ACETATE
140-88-5	ETHYL ACRYLATE (INHIBITED)
142-04-1	ANILINE HYDROCHLORIDE
148-24-3	HYDROXYQUINOLINE,8-
156-62-7	CALCIUM CYANAMIDE
19010-66-3	LEAD DIMETHYLDITHIOCARBAMATE
20265-97-8	ANISIDINE HYDROCHLORIDE,P-
2164-17-2	FLUOMETRON

NTP-STUDIES (continued)

2243-62-1	NAPHTHALENEDIAMINE,1,5-
2835-39-4	ALLYL ISOVALERATE
3165-93-3	CHLOROTOLUIDINEHYDROCHLORIDE,4-,O-
34465-46-8	HEXACHLORODIBENZODIOXIN,1,2,3,6,7,8-
39156-41-7	DIAMINOANISOLESULFATETRIHYDRATE,2,4-
50-29-3	DDT
51-03-6	PIPERONYL BUTOXIDE
512-56-1	TRIMETHYL PHOSPHATE
513-37-1	DIMETHYLVINYL CHLORIDE
5131-60-2	CHLOROPHENYLENEDIAMINE,4-,M-
52-24-4	THIOTEPA
5307-14-2	NITROPHENYLENEDIAMINE,2-,P-
55566-30-8	HYDROXYMETHYLPHOSPHONIUMSULFATE,TETRA
563-47-3	CHLOROMETHYLPROPENE,3-,2-
57-06-7	ALLYL ISOTHIOCYANATE
58-89-9	LINDANE
584-84-9	TOLUENE-2,4-DIISOCYANATE
597-25-1	DIMETHYL MORPHOLINOPHOSPHORAMIDATE
60-57-1	DIELDRIN
602-87-9	NITROACENAPHTHENE,5-
61702-44-1	CHLOROPHENYLENEDIAMINESULFATE,2-,P-
636-21-5	TOLUIDINEHYDROCHLORIDE,O-
72-43-5	METHOXYCHLOR
72-55-9	DDE,P,P'-
72-56-0	ETHYLDDD,P,P'-
75-47-8	IODOFORM
75-56-9	PROPYLENE OXIDE
78-42-2	ETHYLHEXYLPHOSPHATE,TRIS,2-
78-59-1	ISOPHORONE
79-00-5	TRICHLOROETHANE,1,1,2-
79-01-6	TRICHLOROETHYLENE
8001-35-2	TOXAPHENE
82-68-8	PENTACHLORONITROBENZENE
83-79-4	ROTENONE
86-57-7	NITRONAPHTHALENE,1-
868-85-9	DIMETHYL HYDROGENPHOSPHITE
88-96-0	PHTHALAMIDE
91-08-7	TOLUENEDIISOCYANATE,2,6-
91-93-0	DIMETHOXYBENZIDINEDIISOCYANATE,3,3'-
95-74-9	CHLOROTOLUIDINE,3-,P-
95-79-4	CHLOROTOLUIDINE,5-,O-
95-83-0	CHLOROPHENYLENEDIAMINE,4-,O-
97-77-8	TETRAETHYLTHIURAM DISULFIDE
99-59-2	NITROANISIDINE,5-,O-

NY0187005

RISK ASSESSMENT UNCERTAINTIES-THE CASE OF DICHLOROMETHANE
NEW YORK DEPT OF ENV. CONSERVATION, DIV. OF AIR QUALITY
VIRGINIA REST AND MOISES RIANO
01/01/89, 8 pages

THIS DOCUMENT DISCUSSES THE UNCERTAINTIES INHERENT IN THE RISK ASSESSMENT PROCESS AS THEY SPECIFICALLY APPLY TO HEALTH EFFECT STUDIES CONDUCTED FOR DICHLOROMETHANE (METHYLENE CHLORIDE).

NY01	NEW YORK DEPT OF ENV. CONSERVATION, DIV. OF AIR QUALITY
RA	RISK ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
75-09-2	METHYLENE CHLORIDE

PA02APCA/VIP-7

AMBIENT MONITORING FOR EIGHT TOXIC AIR POLLUTANTS AT THREE SITES IN PHILADELPHIA.
PHILADELPHIA DEPT OF PUBLIC HEALTH, AIR MANAGEMENT SERVICES
E. CHASZ
01/01/86, 18 pages

THIS PAPER PRESENTS RESULTS OF INITIAL METHOD DEVELOPMENT WORK & ANALYTICAL DATA FOR A SELECTED GROUP OF TRACE LEVEL AMBIENT ORGANIC COMPOUNDS PRESENT IN PHILADELPHIA'S AIR. THE METHODOLOGY EMPLOYED CENTERS ON THE USE OF A NOVEL COMPOSITE SORBENT TUBE CONTAINING GLASS BEADS, TENAX & AMBERSORB XE-340 IN SERIES TO FORM A SAMPLE COLLECTION TUBE CAPABLE OF RETAINING TENAX ALONE. THE SYSTEM HAS THE ADDED ADVANTAGE OF USING A SMALLER SORBENT TUBE WITH MUCH LESS TOTAL SORBENT MATERIAL THAN IS TYPICAL FOR A SINGLE COMPONENT TENAX TUBE. SUBSEQUENT ANALYSIS IS BY THERMAL DESORPTION COUPLED WITH GC-FID/ECD AND SELECTED ION MONITORING MS.
THE COMPOUNDS INVESTIGATED INCLUDE METHYLENE CHLORIDE, CHLOROFORM, CARBON TETRACHLORIDE, 1,2-DICHLOROETHANE, BENZENE, 1,2-DICHLOROPROPANE TRICHLOROETHYLENE AND PERCHLOROETHYLENE. AMBIENT LEVELS MEASURED WERE GENERALLY IN THE 0.1 TO 10 PPB RANGE, 24 HOUR AVERAGE. THIS GROUP OF EIGHT COMPOUNDS IS MONITORED EVERY SIXTH DAY AT THREE SITES IN PHILADELPHIA AS PART OF AN ONGOING AMBIENT MONITORING PROGRAM FOR NON-CRITERIA POLLUTANTS.

AM	AMBIENT MONITORING
EPA	ENVIRONMENTAL PROTECTION AGENCY
PA02	PHILADELPHIA DEPT OF PUBLIC HEALTH, AIR MANAGEMENT SERVICES
STATE/LOC	STATE OR LOCAL AGENCY
107-06-2	ETHYLENE DICHLORIDE
127-18-4	TETRACHLOROETHYLENE
56-23-5	CARBON TETRACHLORIDE
67-66-3	CHLOROFORM
71-43-2	BENZENE
75-09-2	METHYLENE CHLORIDE
78-87-5	DICHLOROPROPANE,1,2-
79-01-6	TRICHLOROETHYLENE

PB87-173811/REB
Background Information Document for the Development of Regulations to Control the Burning of Hazardous Wastes in Boilers and Industrial Furnaces
EPA, Washington, DC, OSWER
Engineering-Science
Jan 87, 643p-in 3v, PC E99

Abstract: Set of three volumes: PB87-173829, PB87-173837, and PB87-173845. Volume 1, PB87-173829, deals with industrial boilers, and Volume 2, PB87-173837, covers industrial furnaces. Volume 3, PB87-173845, is not available as a separate volume as of 7-18-88. This background information document summarizes the Waste Management Division's studies in the development of proposed regulations for the burning of hazardous waste in boilers and industrial furnaces. For further information, see abstracts for PB87-173829 and PB87-173837.

CL-HAZWAST	HAZARDOUS WASTES
CT	CONTROL TECHNOLOGY DOCUMENT
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
PRA	PRE-REGULATORY ASSESSMENT
RDG	REGULATORY DEVELOPMENT GUIDANCE
SA	SOURCE ASSESSMENT
35	MACHINERY, EXCEPT ELECTRICAL
356	GENERAL INDUSTRIAL MACHINERY
3567	INDUSTRIAL FURNACES AND OVENS
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4953	REFUSE SYSTEMS

PB87-201513/REB
Research Overview: Sources of Indoor Air Pollutants
EPA, Research Triangle Park, NC, AEERL
W.G. Tucker
Jun 87, 14p, EPA-600/D-87-207, PC A02/MF A01

Abstract: The paper briefly traces the history of air quality problems in residential, office, and public access buildings to show the evolution of indoor air quality (IAQ) concerns. It then briefly discusses sources of IAQ problems--both known and suspected--then reviews the current state of knowledge of emissions from these sources. It summarizes recent and current research in Federal and private-sector organizations. Combustion sources, material source (e.g., building materials and consumer products), activity sources (e.g., outdoor air, soil gas, and contaminated groundwater) are used as categories to describe the complex problems being researched. The paper concludes with suggestions to building design, construction, and management professionals regarding potential IAQ problems from sources of greatest potential concern in today's residential, office, and public access buildings.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB87-209540/REB
Locating and Estimating Air Emissions from Sources of Polychlorinated Biphenyls (PCB)
EPA, Research Triangle Park, NC, OAQPS
May 87, 80p, EPA-450/4-84-007N, PC A05/MF A01

Abstract: To assist groups interested in inventorying air emissions of various potentially toxic substances, EPA is preparing a series of documents such as this to compile available information on sources and emissions of these substances. The document deals specifically with polychlorinated biphenyls. Its intended audience includes Federal, State, and local air pollution personnel and others interested in locating potential emitters of polychlorinated biphenyls and in making gross estimates of air emissions therefrom. The document presents information on (1) the types of sources that may emit polychlorinated biphenyls, (2) process variations and release points that may be expected within these sources, and (3) available emissions information indicating the potential for polychlorinated biphenyls release into the air from each operation.

EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT
1336-36-3	POLYCHLORINATED BIPHENYLS

PB87-215356/XAB
Development and Demonstration of Indoor Radon Reduction Measures for Ten Homes in Clinton, New Jersey
EPA, Research Triangle Park, NC, AEERL
Research Triangle Institute
L. D. Michaels, et al.
Jul 87, 176p, EPA-600/8-87-027, PC A09/MF A01

Abstract: The report discusses the development and demonstration of indoor radon reduction methods for ten houses in Clinton, New Jersey, where (in the spring of 1986) the New Jersey Department of Environmental Protection (DEP) located a cluster of houses with extremely high radon levels. The work was to be completed before the 1986-87 winter heating season began. The demonstration houses were selected from 56 in the Clinton Knolls subdivision. All of these houses had shown radon concentrations in excess of 64 pCi/l when monitored in the spring of 1986. Each house was inspected, and ten representative houses were selected for the radon reduction demonstration project. Following intensive diagnostic work and monitoring in each house, house-specific radon reduction plans were developed. With the agreement of the homeowners, radon reduction systems were installed during the summer of 1986. All ten of the houses had radon concentrations reduced significantly by the fall of 1986. The average cost of radon reduction was $3,127.

CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-100342/REB
Rubber Tire Manufacturing Industry - Background Information for Promulgated Standards
EPA, Research Triangle Park, NC, OAQPS
Sep 87, 51p, EPA-450/3-81-008B, PC A04/MF A01

Abstract: Standards of performance for the control of volatile organic compounds (VOC) emissions from rubber tire manufacturing facilities are being promulgated under Section 111 of the Clean Air Act. These standards will apply to newly constructed, modified, or reconstructed facilities in rubber tire manufacturing plants. The document summarizes the public comments received on the proposed standards and the Agency's responses to those comments. The document also summarizes the changes made to the standards since proposal.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NSPS	NEW SOURCE PERFORMANCE STANDARD
30	RUBBER AND MISC. PLASTICS PRODUCTS
301	TIRES AND INNER TUBES
3011	TIRES AND INNER TUBES

PB88-106166/REB
Air Stripping of Contaminated Water Sources - Air Emissions and Controls
EPA, Research Triangle Park, NC, OAQPS
Radian Corporation
M. A. Vancil, et al.
Aug 87, 132p, EPA-450/3-87-017, PC A07/MF A01

Abstract: Air stripping towers are being used to remove low concentrations of organic contaminants from water. The report describes the technology and methods used to control air pollution resulting from this procedure. The cost of the controls is presented along with other positive and negative impacts of the technology.

CL-ORGANIC	ORGANIC COMPOUNDS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4953	REFUSE SYSTEMS

PB88-114996/REB
Polymer Manufacturing Industry - Background Information for Proposed Standards
EPA, Research Triangle Park, NC, OAQPS
Pacific Environmental Services, Inc.
Sep 85, 507p, EPA-450/3-83-019A, PC A22/MF A01

Abstract: Standards of performance for the control of volatile organic compound emissions from the polymer manufacturing industry are being proposed under the authority of Section 111 of the Clean Air Act. These standards would apply to new, modified, and reconstructed facilities that manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate). The document contains background information and environmental and economic impact assessments of the regulatory alternatives considered in developing the proposed standards.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NSPS	NEW SOURCE PERFORMANCE STANDARD
25038-59-9	POLY (OXYETHYLENE OXYTEREPHTHALOYL)
28	CHEMICALS AND ALLIED PRODUCTS
282	PLASTICS MATERIALS AND SYNTHETICS
2821	PLASTICS MATERIALS AND RESINS
9002-88-4	POLYETHYLENE
9003-07-0	PROPENE POLYMERS
9003-53-6	STYRENE, POLYMERS

PB88-118492/REB
Evaluation of Emission Factors for Formaldehyde from Certain Wood Processing Operations
EPA, Research Triangle Park, NC, OAQPS
Radian Corporation
C. E. Burklin, and T. S. White
Oct 87, 79p, EPA-450/3-87-023, PC A05/MF A01

Abstract: A State pollution control agency requested assistance from EPA's Control Technology Center (CTC) in estimating formaldehyde emissions from furniture manufacturing processes. These plants use urea-formaldehyde adhesive resin formulations which emit formaldehyde during application, curing, and storage. The primary sources of information for the study include library and permit data base searches, telephone conferences, and meetings with members of the furniture and adhesive manufacturing industries. The report estimates emission factors for the most significant sources and discusses the impact of process variables and modifications on these emissions.

EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
25	FURNITURE AND FIXTURES
251	HOUSEHOLD FURNITURE
2511	WOOD HOUSEHOLD FURNITURE
50-00-0	FORMALDEHYDE

PB88-124755/REB
Health Effects Associated with Indoor Air Pollutants
EPA, Research Triangle Park, NC, ECAO
H. M. Ammann, et al.
Oct 87, 23p, EPA-600/D-87-324, PC A03/MF A01

Abstract: A state-of-information survey concerning health effects of indoor air pollutants in the categories of formaldehyde, volatile organics, radon, particulates, and combustion products has been prepared by the U.S. Environmental Protection Agency's Environmental Criteria and Assessment Office, Research Triangle Park. N.C. Included in each category are human effects, animal exposure experiments, mutagenicity, and carcinogenicity information. In addition to those health implications associated with each category of pollutants, the problems of measuring exposure to the complex mixtures actually breathed by people in homes is addressed.

CL-CARCIN	CARCINOGENS
CL-IAP	INDOOR AIR POLLUTANTS
CL-PM	PARTICULATE MATTER
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
50-00-0	FORMALDEHYDE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-129556/REB
Methods for Assessing Exposure to Chemical Substances. Volume 9. Methods for Estimating Releases of Chemical Substances Resulting from Transportation Accidents
EPA, Washington, DC, OTS
Versar, Inc.
J. Gartseff, W. C. Crenshaw, and P. D. Jennings
Dec 87, 161p, EPA-560/5-85-009, PC A08/MF A01

Abstract: The report presents methods for calculating expected annual releases of manufactured chemicals resulting from transportation accidents. The scope of the report is limited to releases en route rather than leaks and other releases at transportation terminals. A step-by-step method of calculating annual quantity released per mode of transportation is presented, and sources and limitations of the supporting data are discussed in detail. The method is suitable for comparing estimates of annual releases of several chemicals or for comparing releases by various modes of transportation for one chemical. A statistical analysis of the Department of Transportation (DOT) HAZMAT data base is included as an appendix to the report.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT
40	RAILROAD TRANSPORTATION
401	RAILROADS
4011	RAILROADS, LINE-HAUL OPERATING
42	TRUCKING AND WAREHOUSING
421	TRUCKING, LOCAL AND LONG DISTANCE
4212	LOCAL TRUCKING, WITHOUT STORAGE
44	WATER TRANSPORTATION
441	DEEP SEA FOREIGN TRANSPORTATION
4411	DEEP SEA FOREIGN TRANSPORTATION
442	DEEP SEA DOMESTIC TRANSPORTATION
4421	NONCONTIGUOUS AREA TRANSPORTATION
4422	COASTWISE TRANSPORTATION
4423	INTERCOASTAL TRANSPORTATION
443	GREAT LAKES TRANSPORTATION
4431	GREAT LAKES TRANSPORTATION
444	TRANSPORTATION ON RIVERS AND CANALS
4441	TRANSPORTATION ON RIVERS AND CANALS

PB88-146840/REB

Evaluation of Existing Total Human Exposure Models
EPA, Las Vegas, NV, EMSL
Nevada University
M. D. Pandian
Dec 87, 94p, EPA-600/4-87-044, PC A05/MF A01

Abstract: In the report, a special class of models is examined and several existing formulations are compared. These models utilize pollutant concentration distributions and human time-activity patterns, methods of matching concentrations and activities, the number of pollutants which can be handled, accomodation for short-term (acute) or long-term (chronic) exposures, treatment of uncertainties, and errors in the modeling techniques. Models are also compared to ascertain whether the computer program itself is well written, modular, and user friendly with simple input of variables and clear, understandable outputs.

CL-VARIOUS	VARIOUS
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB88-158951/REB

Evaluation of Control Strategies for Volatile Organic Compounds in Indoor Air
EPA, Research Triangle Park, NC, AEERL
Research Triangle Institute
K. Ramanathan, et al.
Jan 88, 22p, EPA-600/D-88-010, PC A03/MF A01

Abstract: The Air and Energy Engineering Research Laboratory of the U.S. Environmental Protection Agency (EPA) conducts and sponsors research on technology to reduce or eliminate emissions of potentially toxic volatile organic compounds (VOCs) from industrial/commercial sources. The realization that indoor air environments, where most humans spend the majority of their time, also contain significant levels of VOCs has led to a number of EPA-sponsored studies on monitoring, modeling, and controlling these compounds. The purpose of the paper is twofold: (1) to present an overview of the problem of indoor air pollution by VOCs and approaches to solving it, and (2) to report the results of a study to determine the feasibility of carbon adsorption for control of VOCs in indoor air.

CL-IAP	INDOOR AIR POLLUTANTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB88-160262/REB

Radon Mitigaiton Choices in the United States: A Comparison of Private and Public Sector Developments
EPA, Research Triangle Park, NC, AEERL
K. A. Witter, D. C. Sanchez, and A. B. Craig
Jan 88, 14p, EPA-600/D-88-011, PC A03/MF A01

Abstract: The paper compares private and public sector developments relating to radon mitigation in the U.S. In response to elevated radon levels in many U.S. houses, the Federal and State governments and the private sector have undertaken many varied mitigation and public information efforts resulting in a range of radon reduction installations in the U.S. Government-sponsored research and development of radon mitigation techniques in single-family detached houses is compared with radon mitigation approaches undertaken by the private sector. An attempt is also made to compare premitigation diagnostics, the application of mitigation techniques to various substructure types, the performance of mitigation installations, and the cost of the installations. The information collected indicates that subslab ventilation is the most common technique in both public and private sector radon mitigation. However, air-to-air heat exchangers and sealing are employed more frequently in the private sector than in government-sponsored mitigation.

CL-IAP	INDOOR AIR POLLUTANTS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-161146/REB
Toxic Air Pollutant/Source Crosswalk - A Screening Tool for Locating Possible Sources Emitting Toxic Air Pollutants
EPA, Research Triangle Park, NC, OAQPS
Pacific Environmental Services, Inc.
Dec 87, 313p, EPA-450/4-87-023A, PC A14/MF A01

Abstract: The report presents an Air Toxic Pollutant Crosswalk that associates emitting source categories with specific air toxics compounds. This is a qualitative association and does not provide any information about the quantities of pollutants emitted from the source categories. The crosswalk contains pollutant names, CAS numbers, industrial source categories (SIC codes), and emitting source classifications (SCC codes). Appendices C-G of the EPA report, Compiling Air Toxics Emissions Inventory, EPA-450/4-86-010, were updated and expanded to develop the report. In addition, a software system containing the crosswalk was developed for easy access and updating of the data. Use of the system is explained in the EPA report, Toxic Air Pollutant/Source Crosswalk - Information Storage and Retrieval System User's Manual, EPA-450/4-87-023b. EPA is making available the system and data base records to agency users upon request. The purpose of the report is to offer a technical service to air pollution control agencies in performing preliminary assessments of the types and sources of toxic compounds present in an area. The crosswalk helps agencies to identify the potential of pollutants to be emitted from sources in an area.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT

PB88-161534/REB
Radon Reduction Strategies and Approaches
EPA, Research Triangle Park, NC, AEERL
J. E. Cook, and D. J. Egan
Jan 88, 42p, EPA-600/D-88-022, PC A03/MF A01

Abstract: The chapter is for inclusion in a textbook, Environmental Radon, for graduate students. It gives a flavor of what radon mitigation entails, rather than being a detailed handbook treatment of the subject. It emphasizes the removal or reduction of soil-gas-borne radon (the major source of radon in most houses) and briefly describes the following methods of reducing/removing indoor radon: natural ventilation; forced air ventilation; forced air ventilation with heat recovery; reducing entry points (sealing); venting radon from the soil surrounding a house by drain-tile soil ventilation, sub-slab ventilation, or wall ventilation; reducing pressure differentials; removing radon from water; and air cleaning. It gives background information on house construction types, the significance of weather phenomena, and the significance of the stack effect in elevating indoor radon levels.

CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-171178/REB
Status of EPA (Environmental Protection Agency) Radon Mitigation Demonstration Program
EPA, Research Triangle Park, NC, AEERL
A. B. Craig
Feb 88, 11p, EPA-600/D-88-037, PC A03/MF A01

Abstract: The paper discusses the portion of EPA's radon reduction technology development/demonstration program dealing with the study of reduction methods for existing and new construction houses. The EPA program has as its objective the development and demonstration of cost-effective radon reduction techniques applicable to existing and new construction houses, all housing substructure types, a wide range of house design and construction features, a range of initial radon concentrations, a variety of radon mitigation approaches, and a scope that is national. The program, which started on a small scale in 1984, is divided into four major areas: methods for radon entry diagnosis and reduction performance testing, reduction methods for existing houses, reduction methods for new houses, and program support and information transfer. After one year of study, a matrix was developed to try to systematize a very complex problem.

CL-IAP	INDOOR AIR POLLUTANTS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-172374/REB
Summary Review of Health Effects Associated with Naphthalene: Health Issue Assessment
EPA, Research Triangle Park, NC, ECAO
Nov 87, 59p, EPA-600/8-87-055F, PC A04/MF A01

Abstract: Naphthalene is released into ambient air via industrial gaseous and particulate emissions, tobacco use, and through consumer use. The data base concerning exposure of humans via inhalation and associated health effects is virtually nonexistent. Overexposure often results in acute hemolytic anemia and has been associated with cataract formation. There are no available dose-response data. In laboratory animals, two principal target tissues have been identified: non-ciliated bronchiolar epithelial (Clara) cells and eye tissue. The metabolite(s) that is responsible for Clara cell damage is unknown. There are no published studies involving inhalation exposure. Administration of naphthalene by routes other than inhalation has been shown to produce cataracts in rats, rabbits, and one mouse strain. Negative results have been reported for gene mutations (Salmonella), unscheduled DNA synthesis in rat hepatocytes, and micronuclei in mouse bone marrow. Limited teratology studies in rats and rabbits reported no gross abnormalities. In a single dose (300 mg/kg) study in mice, both maternal and fetal toxicity were reported.

CL-ETS	ENVIRONMENTAL TOBACCO SMOKE
CL-PM	PARTICULATE MATTER
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
524-42-5	NAPHTHOQUINONE,1,2-
91-20-3	NAPHTHALENE

PB88-172952/REB

Draft Regulatory Impact Analysis: Control of Gasoline Volatility and Evaporative Hydrocarbon Emissions from New Motor Vehicles
EPA, Ann Arbor, MI, OMS
Jul 87, 521p, PC A22/MF A01

Abstract: Contents: In-use motor vehicle-related hydrocarbon emissions (ozone noncompliance situation, effect of volatility on HC emission factors, benzene emission from gasoline-fueled vehicles as a function of fuel parameters); environmental impacts (description of model and inputs, nationwide and non-attainment area inventory projections, ozone air quality analysis, benzene emissions and incidence analysis); vehicle controls (technology, costs, conclusions); technological feasibility and cost of in-use volatility control (refinery control of gasoline volatility, the Bonner and Moore studies, refinery costs of volatility control, effect of RVP control on the butane market); analysis of alternatives: gasoline; analysis of alternatives: alcohol blends (industry economics and blend RVP, emission effects of blend usage, effect of RVP control on alcohol blends, gasohol control options, methanol-blend control options).

CL-HCARB	HYDROCARBONS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
CT	CONTROL TECHNOLOGY DOCUMENT
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RDG	REGULATORY DEVELOPMENT GUIDANCE
10028-15-6	OZONE
106-97-8	BUTANE
37	TRANSPORTATION EQUIPMENT
371	MOTOR VEHICLES AND EQUIPMENT
3714	MOTOR VEHICLE PARTS AND ACCESSORIES
41	LOCAL AND INTERURBAN PASSENGER TRANSIT
411	LOCAL AND SUBURBAN TRANSPORTATION
4111	LOCAL AND SUBURBAN TRANSIT
413	INTERCITY HIGHWAY TRANSPORTATION
4131	INTERCITY HIGHWAY TRANSPORTATION
67-56-1	METHANOL
71-43-2	BENZENE
8006-61-9	GASOLINE

PB88-174545/REB

Sodium Hydroxide Preliminary Source Assessment
EPA, Research Triangle Park, NC, OAQPS
W. J. Neuffer
Feb 88, 132p, EPA-450/3-88-002, PC A07/MF A01

Abstract: A preliminary source assessment of industries with sodium hydroxide emissions is presented. Brief descriptions of these industries and processes that emit sodium hydroxide are given. Sodium hydroxide emissions data that were used in the Human Exposure Model (HEM) are contained in the report. This model is used by EPA's Pollutant Assessment Branch to evaluate health risks from various pollutants. Sodium hydroxide emissions data were primarily obtained from the States of Kentucky, New Jersey, New York, and Texas.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT
1310-73-2	SODIUM HYDROXIDE
28	CHEMICALS AND ALLIED PRODUCTS
281	INDUSTRIAL INORGANIC CHEMICALS
2812	ALKALIES AND CHLORINE

PB88-179205/REB
Health Assessment Document for Beryllium
EPA, Washington, DC, OHEA
D. L. Bayliss, et al.
Nov 87, 206p, EPA-600/8-84-026F, PC A10/MF A01

Abstract: The chemical and geochemical properties of beryllium resemble those of aluminum, zinc, and magnesium. The three most common forms of beryllium in industrial emissions are the metal, the oxide, and the hydroxide. The main routes of beryllium intake for man and animals are inhalation and ingestion. The chemical properties of beryllium are such that inhaled beryllium has a long retention time in the lungs, and thus, a greater potential for absorption. The lung is the critical organ of both acute and chronic noncarcinogenic effects. However, unlike most other metals, the lung effects caused by chronic exposure to beryllium may be combined with systemic effects, of which one common factor may be hypersensitization. Epidemiologic studies are inadequate to demonstrate or refute a human carcinogenic potential. In terms of the weight-of-evidence for carcinogenicity, beryllium is judged to be in Group B2 signifying that the animal evidence for carcinogenicity is sufficient and that beryllium and its compounds are regarded as probably carcinogenic for humans.

CL-CARCIN	CARCINOGENS
CL-METAL	METALLIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
10	METAL MINING
109	MISCELLANEOUS METAL ORES
1099	METAL ORES, NEC
7429-90-5	ALUMINUM
7439-95-4	MAGNESIUM
7440-41-7	BERYLLIUM
7440-66-6	ZINC

PB88-179288/REB
Residential Wood Heaters - Background Information for Promulgated Standards
EPA, Research Triangle Park, NC, OAQPS
Nov 87, 131p, EPA-450/3-87-025, PC A07/MF A01

Abstract: The report contains background technical information used in establishing standards of performance for residential wood heaters as proposed under the authority of Sections 101, 111, 114, and 301 of the Clean Air Act, as amended.

CL-IAP	INDOOR AIR POLLUTANTS
CL-PM	PARTICULATE MATTER
CL-WOOD	WOOD SMOKE
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NSPS	NEW SOURCE PERFORMANCE STANDARD

PB88-184908/XAB
Radon Reduction Techniques for Detached Houses: Technical Guidance. 2nd ed.
EPA, Research Triangle Park, NC, AEERL
D. B. Henschel
Jan 88, 192p, EPA-625/5-87-019, PC A11/MF A01

Abstract: This document is designed to aid in the selection, design, and operation of measures for reducing the levels of naturally occurring radon gas in existing houses. Some of these measures can be considered for reducing indoor radon levels. For radon from natural sources, these methods fall into two generic categories: methods aimed at preventing the radon from entering the house, and those aimed at removing radon or its decay products after entry. The selection and design of a cost-effective radon reduction system for a specific house will depend upon a number of factors specific to that house, including, for example, the pre-reduction radon concentration and a variety of house design and construction details. This document is intended for use as a handbook by State officials, radon mitigation contractors, building contractors, concerned homeowners, and other persons to aid in the selection and design process, and to aid in evaluating the operation of the installed system.

CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
88	PRIVATE HOUSEHOLDS

PB88-189022/REB
National Ambient Volatile Organic Compounds (VOCs) Data Base,
1970-1987 (for Microcomputers)
EPA, Research Triangle Park, NC, ASRL
J. J. Shah, and L. T. Cupitt
1987, 16 diskettes, EPA-DF/DK-88-043, CP D07

Abstract: The National Ambient Volatile Organic Compounds (VOCs) Data Base update is the result of an ongoing effort to gather, evaluate, and compile the measured concentrations of a large number of VOCs. Data on the observed concentrations of 320 VOCs were compiled, critically evaluated, and assembled into a relational data base. Ambient (outdoor) measurements, indoor data, and data collected with personal monitors are included. The data are primarily from the period 1970-1987 and for locations within the United States. In order to compile data from many different sources, each concentration record in the data base represents the daily average for a single chemical, wherever feasible. The total data base contains more than 175,000 concentration records. The data have been assembled into a relational data base using dBASE III Plus, a commercially available data base management program. The data base is available on IBM PC-compatible diskettes. The available report contains a complete description of the data base files and a guide describing the use of a prepared program for searching and maintaining the data base. The data base consists of 42 files and requires 19.4 megabytes of storage space.

AM	AMBIENT MONITORING
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB88-195631/REB
National Ambient Volatile Organic Compounds (VOCs) Data Base
Update, Documentation
EPA, Research Triangle Park, NC, ASRL
Nero and Associates
J. J. Shah, and E. K. Heyerdahl
Mar 88, 131p, EPA-600/3-88-010A, PC A07/MF A01

Abstract: Data on the observed concentrations of 320 VOCs were compiled, critically evaluated, and assembled into a relational data base. Ambient (i.e., outdoor) measurements, indoor data, and data collected with personal monitors are included. The data are primarily from the period 1970-1987 and for locations within the United States. In order to compare data from many different sources, each concentration record in the data base represents the daily average for a single chemical, wherever feasible. The total data base contains more than 175,000 concentration records. Summaries of the data distributions are tabulated in the report. Averages, medians, and quartile values are given for each chemical measured in both the ambient and indoor site categories. Median values are also listed for each chemical for the eight specific site types included in the data report. The ambient site types are: remote, rural, suburban, urban, and source dominated. The indoor category of site types include residential indoor, workplace (non-industrial), and personal monitors. The data have been assembled into a relational data base using dBASE III Plus, a commercially available data base management program. The report contains a complete description of the data base files and a guide for searching and maintaining the data base.

AM	AMBIENT MONITORING
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-196019/REB
Reference Physiological Parameters in Pharmacokinetic Modeling
EPA, Washington, DC, OHEA
Oak Ridge National Lab
A. D. Arms, and C. C. Travis
Feb 88, 112p, EPA-600/6-88-004, PC A06/MF A01

Abstract: The document presents a compilation of measured values for physiological parameters used in pharmacokinetic modeling. The physiological parameters include body weight, tissue volume, cardiac output distribution, and respiration parameters. Reference values for use in risk assessment are given for each of the physiological parameters based on analyses of valid measurements obtained from the literature and other reliable sources. The proposed reference values are for generic mice and rats without regard to sex or strain. Reference values for humans are without regard to age or sex. Differences between the sexes in mice, rats, and humans are accounted for by scaling the reference parameters within species on the basis of body weight. Reference physiological parameters are for a 0.025 kg mouse, 0.25 kg rat, and a 70 kg man.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RA	RISK ASSESSMENT

PB88-196175/REB
Locating and Estimating Air Emissions from Sources of Benzene
EPA, Research Triangle Park, NC, OAQPS
Radian Corporation
P. A. Cruse
Mar 88, 219p, EPA-450/4-84-007Q, PC A10/MF A01

Abstract: To assist groups interested in inventorying air emissions of various potentially toxic substances, EPA is preparing a series of documents such as this to compile available information on sources and emissions of these substances. The document deals specifically with benzene. Its intended audience includes Federal, State, and local air pollution personnel and others interested in locating potential emitters of benzene making gross estimates of air emissions therefrom. The document presents information on (1) the types of sources that may emit benzene, (2) process variations and release points that may be expected within these sources, and (3) available emissions information indicating the potential for benzene release into the air from each operation.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2865	CYCLIC CRUDES AND INTERMEDIATES
29	PETROLEUM AND COAL PRODUCTS
291	PETROLEUM REFINING
2911	PETROLEUM REFINING
71-43-2	BENZENE

PB88-197298/REB
Chromium Emissions from Comfort Cooling Towers: Background Information for Proposed Standards
EPA, Research Triangle Park, NC, OAQPS
Mar 88, 171p, EPA-450/3-87-010A, PC A08/MF A01

Abstract: Standards of performance for the control of hexavalent chromium emissions from comfort cooling towers are being proposed under authority of Section 6 of the Toxic Substances Control Act. These standards would apply to existing and new comfort cooling towers. The document contains background information and environmental and economic impact assessments of the regulatory alternatives considered in developing the proposed standards.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NSPS	NEW SOURCE PERFORMANCE STANDARD
7440-47-3	CHROMIUM

PB88-198528/REB
Clinton, New Jersey, Radon Mitigation Follow-Up and Long-Term Monitoring
EPA, Research Triangle Park, NC, AEERL
PEI Associates, Inc.
J. Carvitti
Apr 88, 62p, EPA-600/7-88-005, PC A04/MF A01

Abstract: The report gives results of a follow-up of the 1986 demonstration of radon reduction techniques in 10 houses in Clinton, New Jersey. Initial radon levels in the 10 houses ranged from 400 to 2200 pCi/l. Radon reductions of more than 95 percent were achieved by using a variety of subslab ventilation techniques. Since January 1987, the radon levels in the 10 houses have been monitored with alpha track detectors. The detectors have been installed and removed quarterly. Three detectors were used on the lowest level of each house and three on the next higher level. Results of the comparison between the radon concentration measured during the first and second quarters of 1987 showed that most of the houses had slightly higher concentrations during the second quarter. These results are contrary to expected trends. Two houses with slightly elevated radon levels received additional radon reduction applications at the end of the second quarter of 1987.

CL-IAP	INDOOR AIR POLLUTANTS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-198551/REB
Construction and Operation of a 10 CFM (Cubic Feet Per Minute) Sampling System with a 10:1 Dilution Ratio for Measuring Condensable Emissions
EPA, Research Triangle Park, NC, AEERL
Southern Research Institute
W. J. Steele, A. D. Williamson, and J. D. McCain
Apr 88, 28p, EPA-600/8-88-069, PC A03/MF A01

Abstract: The report describes a transportable sampling apparatus designed to sample incineration sources at municipal and hazardous waste disposal facilities, and to provide noncontaminated samples of condensable materials. The sample gas, at a flowrate of 10 cubic feet per minute (cfm), passes through a modified Source Assessment Sampling System cyclone and is then diluted with clean air at 100 cfm by a novel, perforated cone assembly. Rapid uniform dilution takes place through the vigorous mixing of the sample and clean air streams in the dilution chamber. The resultant gas, cooled to about atmospheric conditions, is passed through a mixing section that provides a residence time of about 3 seconds. The resulting aerosol particles are collected on a Teflon-coated glass-fiber filter. These solids, along with those collected in the cyclone, are subsequently provided for chemical and biological assay analysis.

CL-HAZWAST	HAZARDOUS WASTES
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SS	SOURCE SAMPLING
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4953	REFUSE SYSTEMS

PB88-202379/REB
Dispersion Model for Elevated Dense Gas Jet Chemical Releases (OOMS/DEGADIS) (for Microcomputers)
EPA, Research Triangle Park, NC, OAQPS
D. Guinnup
Apr 88, 2 diskettes, EPA-SW/DK-88-048, CP D99

Abstract: The computer program, OOMS/DEGADIS, found on these diskettes and described in the EPA report entitled "A Dispersion Model for Elevated Dense Gas Jet Chemical Releases - Volumes 1 and 2" (EPA-450/4-88-006A and B) is a VAX-operational program designed to simulate the dispersion of heavier-than-air gases which are emitted into the atmosphere with significant velocity through elevated ports. The program incorporates the sequential execution of two models. The first one (OOMS) calculates the trajectory and dispersion of the gas plume as it falls to the ground. The second (DEGADIS) calculates the downwind dispersion of the plume after it touches the ground. Users are referred to the Preface in the User's Guide for specific instructions for program implementation. Software Description: The program is written in FORTRAN with specific intent for compilation and execution on a Digital Equipment Corporation VAX computer. Implementation of the model on any other computer system may be attempted at the risk of the user. To facilitate dissemination of the model, it is being provided on two PC-compatible diskettes. The model should be uploaded via modem from a PC terminal to host VAX computer, and several files must then be renamed prior to compilation and execution.

CL-VARIOUS	VARIOUS
DM	DISPERSION MODELING
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB88-202387/REB
Dispersion Model for Elevated Dense Gas Jet Chemical Releases.
Volume 1. Documentation
EPA, Research Triangle Park, NC, OAQPS
Arkansas University
J. Havens, and T. Spicer
Apr 88, 82p, EPA-450/4-88-006A, PC A05/MF A01

Abstract: The document is the first of two volumes describing the development and use of a computer program designed to model the dispersion of heavier-than-air gases which are emitted into the atmosphere with significant velocity through elevated ports. The program incorporates the sequential execution of two models. The first one (OOMS) calculates the trajectory and dispersion of the gas plume as it falls to the ground. The second (DEGADIS) calculates the downwind dispersion after the plume touches ground. The first volume discusses the development of both models and establishes the mathematical framework for the calculations. In addition, the trajectory portion of the model is evaluated in reference to wind tunnel data.

CL-VARIOUS	VARIOUS
DM	DISPERSION MODELING
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB88-202395/REB
Dispersion Model for Elevated Dense Gas Jet Chemical Releases.
Volume 2. User's Guide
EPA, Research Triangle Park, NC, OAQPS
Arkansas University
J. Havens
Apr 88, 377p, EPA-450/4-88-006B, PC A17/MF A01

Abstract: The mathematical modeling techniques used to predict atmospheric dispersion of denser-than-air gases in the OOMS and DEGADIS models are briefly summarized. The OOMS/DEGADIS model was written in FORTRAN with specific intent for compilation and execution on a Digital Equipment Corporation VAX computer. The OOMS model describes the release and subsequent dilution and trajectory of an elevated gas jet as a gas plume. If the plume falls to ground level, DEGADIS describes the resulting ground-level plume. DEGADIS can also be used to describe the release and dilution from a low-momentum, ground-level release. The necessary model-input information to simulate a denser-than-air gas release is summarized. Example simulations of steady-state and transient release and guidelines for installation of the models are included. The OOMS and DEGADIS models are listed along with certain program variables and diagnostic messages.

CL-VARIOUS	VARIOUS
DM	DISPERSION MODELING
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB88-202734/AS
National Air Toxics Information Clearinghouse (NATICH) Database
Users Guide for Data Entry and Editing
EPA, Research Triangle Park, NC, OAQPS
Radian Corp.
S.A. Smith
Feb 88, 90p, EPA-4505-88-001, PC A05/MF A01

Abstract: The National Air Toxics Information Clearinghouse (NATICH) data base is a computerized data base which contains indexed information on toxic and potentially toxic air pollutants. The NATICH data base has been established by the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, to support State and local programs in the control of non-criteria air pollutants. The data base is intended to facilitate information exchange among State and local agencies and between EPA and State and local agencies and to minimize duplication of effort. The NATICH data base contains two major categories of data: (1) data collected from State and local air pollution control agencies on their air toxics activities, and (2) citations and abstracts to published documents and ongoing research related to toxic air pollutants from EPA and other agencies and organizations.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RDG	REGULATORY DEVELOPMENT GUIDANCE

PB88-211685/REB
Evaluating Sources of Indoor Air Pollution
EPA, Research Triangle Park, NC, AEERL
B. A. Tichenor, et al.
May 88, 17p, EPA-600/D-88-086, PC A03/MF A01

Abstract: The paper discusses a three-phase approach, employing environmental chambers, indoor air quality (IAQ) models, and test house experiments, that is effective in linking sources of indoor pollutants to measured concentrations. Emission factors developed in test chambers can be used to evaluate full-scale indoor environments. A PC-based IAQ model has been developed that can accurately predict indoor concentrations of specific pollutants under controlled conditions in a test house. The model is also useful in examining the effect of pollutant sinks and variations in ventilation parameters. Pollutants were examined from: (1) para-dichloro-benzene emissions from moth crystal cakes, and (2) particulate emissions from unvented kerosene heaters. However, the approach has not been validated for other source types, including solvent-based materials and aerosol products.

CL-IAP	INDOOR AIR POLLUTANTS
CL-PM	PARTICULATE MATTER
CL-SOLVENT	SOLVENTS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SA	SOURCE ASSESSMENT
106-46-7	DICHLOROBENZENE,1,4-
8001-20-6	KEROSENE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-213061/REB
Effect of Ventilation on Emission Rates of Wood Finishing Materials
EPA, Research Triangle Park, NC, AEERL
Acurex Corporation
B. A. Tichenor, and Z. Guo
May 88, 14p, EPA-600/D-88-104, PC A03/MF A01

Abstract: The paper gives results from EPA studies on the effect of ventilation (air changes per hour) and material loading on the emission rate for selected organics and total measured organics from three wood finishing materials (stain, polyurethane, and wax). The data are analyzed to show the effect of ventilation on the emission characteristics of each material. The rate of emission of organic compounds from building materials varies according to type of material, material loading (area of material/volume of room), compound emitted, temperature, humidity, and ventilation rate. For some compounds and materials (e.g., formaldehyde from particleboard), the relationship between emission rate and these variables is well established. For most materials and compounds, however, such relationships are unavailable. Research, using small test chambers, is being conducted by EPA to develop data on emission rates from a variety of building materials.

CL-ORGANIC	ORGANIC COMPOUNDS
CL-RESIN	RESINS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SA	SOURCE ASSESSMENT
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
1522	RESIDENTIAL CONSTRUCTION, NEC
154	NONRESIDENTIAL BUILDING CONSTRUCTION
1541	INDUSTRIAL BUILDINGS AND WAREHOUSES
1542	NONRESIDENTIAL CONSTRUCTION, NEC
50-00-0	FORMALDEHYDE
9009-54-5	POLYURETHANE

PB88-216940/REB
Photochemically Reactive Organic Compound Emissions from Consumer and Commercial Products
EPA, New York, APB
Science Applications International Corporation
A. Jones, et al.
Nov 86, 184p, EPA-902/4-86-001, PC A09/MF A01

Abstract: The report estimates the emissions of volatile organic compounds (VOC) and photochemically reactive organic compounds (PROC) released from the use of consumer products in the States of California and New Jersey, and the New York metropolitan area. The report describes the data sources and methodologies that were used to estimate VOC and PROC emissions from consumer products, and presents emission estimates broken down by consumer product subcategory and geographic region.

CL-PCO	PHOTOCHEMICAL OXIDANTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT

PB88-218979/REB
Estimating the Risk of Lung Cancer from Inhalation of Radon Daughters Indoors: Review and Evaluation
EPA, Las Vegas, NV, EMSL
Colorado State University, Dept. of Radiology and Radiation Biology
T. B. Borak, and J. A. Johnson
Jun 88, 131p, EPA-600/6-88-008, PC A07/MF A01

Abstract: A review of the dosimetric models and epidemiological studies with regard to the relation between indoor radon exposure and lung cancer indicates that the Working Level is an appropriate unit for indoor radon exposure; that the uncertainty in applying risk estimates derived from uranium miner data may be reduced by determining nose versus mouth breathing ratios, residential aerosol characteristics, and lung cancer risk versus age at exposure; that there is persuasive evidence of an association between radon exposure indoors and lung cancer; and that epidemiological studies in progress may provide a basis for revision or validation of current models but only if experimental designs are employed that will permit pooling of data to obtain greater statistical power.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
RA	RISK ASSESSMENT
10	METAL MINING
10043-92-2	RADON
109	MISCELLANEOUS METAL ORES
1094	URANIUM-RADIUM-VANADIUM ORES
7440-61-1	URANIUM

PB88-220363/REB
Carcinogen Risk Assessment of Chromium Compounds
EPA, Washington, DC, CAG
H. J. Gibb, C. W. Chen, and C. B. Hiremath
Jun 88, 50p, EPA-600/D-88-129, PC A03/MF A01

Abstract: Hexavalent chromium has been identified as a human carcinogen. Evidence to support this contention derives from epidemiologic, animal. and genotoxicity studies. Although workers exposed to both trivalent and hexavalent chromium have been shown to be at an excess risk of respiratory cancer, only hexavalent chromium has been shown to be carcinogenic in animals. Both hexavalent and trivalent chromium have been shown to be mutagenic, but the evidence for hexavalent chromium is somewhat stronger than that for trivalent chromium. The quantitative estimation of the cancer risk due to hexavalent chromium in the ambient air is calculated on the basis of lung cancer mortality data for chromate production workers. The lifetime respiratory cancer risk due to 1 microgram/cu m of hexavalent chromium in the ambient air is estimated to be 1.2x.002 on the basis of Mancuso's data and 9.4x.003 on the basis of the Braver et al. data.

CL-CARCIN	CARCINOGENS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RA	RISK ASSESSMENT
10	METAL MINING
106	FERROALLOY ORES, EXCEPT VANADIUM
1061	FERROALLOY ORES, EXCEPT VANADIUM
18540-29-9	CHROMIUM (VI) COMPOUNDS
7440-47-3	CHROMIUM

PB88-225115/REB
Preliminary Diagnostic Procedures for Radon Control
EPA, Research Triangle Park, NC, AEERL
California University, Lawrence Berkeley Lab
B. H. Turk, et al.
Jun 88, 65p, EPA-600/8-88-084, PC A04/MF A01

Abstract: The report describes analytical procedures for diagnosing radon entry mechanisms into buildings. These diagnostic methods are generally based on the premise that pressure-driven flow of radon-bearing soil gas into buildings is the most significant source of radon in houses with elevated concentrations, although procedures to determine the contributions of other potential sources to indoor airborne concentrations are also included. The initial problem assessment procedures rely on an organized set of measurements to characterize the structure, the surrounding soil, and the likely entry pathways from the soil into the building. The measurement procedures, described in detail, include radon grab sampling under both naturally and mechanically depressurized conditions, visual and instrumental analyses of air movement at various substructure locations, building leakage area tests, and soil characterization methods. Post-mitigation evaluation procedures are also described. Samples of various data forms and test logs are provided.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-225792/REB
Air Emissions Species Manual, Volume 1, Volatile Organic Compound Species Profiles
EPA, Research Triangle Park, NC
Radian Corporation
G. S. Shareef, et al.
Apr 88, 638p, EPA-450/2-88-003A, PC A99/MF A01

Abstract: In 1980, EPA published the "Volatile Organic Compound (VOC) Species Data Manual, Second Edition," EPA-450/4-80-015, which provided VOC species profiles for some emission source categories. More recently, EPA published the "Receptor Model Source Composition Library," EPA-450/4-85-002, which contains PM species profiles for several source categories. The objective of the current study was to evaluate, revise, and update (1) the 1980 VOC Data Manual and (2) the Source Composition Library. The updated VOC species profile data base is contained in Volume 1 of the document. The VOC profile data base includes VOC profiles from primarily three sources: (1) the 1980 VOC Data Manual, (2) new VOC profiles developed from readily available existing data, and (3) new VOC profiles developed from original data as a result of the VOC speciation field sampling program. In addition to the VOC profiles, Volume 1 contains profile assignments that link a profile to a source category.

CL-PM	PARTICULATE MATTER
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT

PB88-229547/REB
Preliminary Experiments in a Research House to Investigate Contaminant Migration in Indoor Air
EPA, Washington, DC, OTS
Geomet Technologies, Inc.
M. D. Koontz, et al.
Jun 88, 92p, EPA-560/5-88-004

Abstract: Controlled experiments were performed in an unoccupied research house to provide (1) a detailed characterization of the migration patterns of contaminants released indoors from consumer products and (2) a basis for assessment of the exposure implications of contaminant migration and the accuracy of currently used exposure assessment models. To enable relatively detailed spatial and temporal monitoring with readily available instrumentation, carbon monoxide was chosen as a surrogate contaminant for the investigation. Within an hour after the release was terminated, concentrations approached spatial uniformity even though a central air circulation fan that would have promoted contaminant migration was turned off as part of the experimental design. A single-chamber indoor air quality model provided closer approximation of passive than active exposures. Use of a two-chamber model resulted in better estimates of each type of exposure.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
630-08-0	CARBON MONOXIDE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-230909/REB
Assessing Asbestos Exposure in Public Buildings
EPA, Washington, DC, OTS
Battelle Columbus Division
J. Hatfield, et al.
May 88, 184p, EPA-560/5-88-002, PC A09/MF A01

Abstract: Airborne asbestos levels were measured by direct transmission electron microscopy in 49 public buildings from three categories: (1) buildings without asbestos-containing material (ACM); (2) buildings with all or most of the ACM in good condition allowing for a limited number of areas of moderate damage; and (3) buildings which had at least one area of significantly damaged ACM or numerous areas of moderate damage. Although the absolute airborne asbestos levels were very low, Category 3 had the highest median levels followed by Category 2, Category 1, and outdoors. Category 3 levels were significantly higher than Category 1. Another objective was to field test an assessment method for ACM developed to facilitate abatement decision making in the context of an asbestos management program. Using rate consistency as an evaluation criterion, the three factors showed promise as assessment tools for use in the field. Each factor showed statistically significant consistency among raters.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
1332-21-4	ASBESTOS

PB88-231204/REB
Cancer Risk-Specific Dose Estimate for 2,3,7,8-TCDD
EPA, Washington, DC, OHEA
Jun 88, 72p, PC A04/MF A01

Abstract: The draft report focuses on the hazard identification and dose-response assessment for the potential human carcinogenicity of the chemical. The objective of the report is to determine if EPA's 1985 cancer risk assessment for polychlorinated dibenzo-p-dioxins should be modified in light of recent data, alternative risk assessment methods, or alternative interpretations of data on the chemical. The draft report concludes that (1) the 1985 assessment that associates a 0.006 pk/kg/day dose with a plausible upper bound increased cancer risk of one in a million (10 to the -6 power) should be reconsidered, and (2) a change to a 0.1 pg/kg/day dose as a plausible upper bound associated with an increased lifetime risk of one in a million is consistent with the available data and theories, and represents a reasonable science policy for the Agency. Also, Appendices A through F to the document contain important background information on a broad range of issues related to 2,3,7,8-TCDD.

CL-CARCIN	CARCINOGENS
CL-DIOXIN	DIOXINS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RA	RISK ASSESSMENT
1746-01-6	TETRACHLORODIBENZODIOXIN,2,3,7,8-,P-

PB88-231212/REB
Cancer Risk-Specific Dose Estimate for 2,3,7,8-TCDD: Appendices A through F
EPA, Washington, DC, OHEA
Jun 88, 270p, PC A12/MF A01

Abstract: The draft report reexamines the scientific basis and methods used by EPA for estimating the cancer potency of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). It focuses on the hazard identification and dose-response assessment for the potential human carcinogenicity of this chemical. The objective of the report is to determine if EPA's 1985 cancer risk assessment for polychlorinated dibenzo-p-dioxins should be modified in light of recent data, alternative risk assessment methods, or alternative interpretations of data on the chemical. Appendices A through F to the document contain important background information on a broad range of issues related to 2,3,7,8-TCDD including quantitative implications (A), epidemiology (B and D), reproductive and developmental toxicity (C), immunotoxicity (E), and mechanisms of action (F).

CL-CARCIN	CARCINOGENS
CL-DIOXIN	DIOXINS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
RA	RISK ASSESSMENT
1746-01-6	TETRACHLORODIBENZODIOXIN,2,3,7,8-,P-

PB88-231949/REB
Summary Review of the Health Effects Associated with Sodium Hydroxide: Health Issue Assessment
EPA, Washington, DC, OHEA
F. M. Martin
Jun 88, 43p, EPA-600/8-88-081, PC A03/MF A01

Abstract: Sodium hydroxide (NaOH) is produced in large quantities in the United States and the aerosol may be released into the atmosphere. Inhalation of aerosolized NaOH can cause damage to the upper respiratory tract and to the lungs. Rats exposed to a 40% NaOH aerosol in a chronic study showed bronchial ulceration and necrosis. At 20%, bronchi were dilated and the epithelium was desquamated. Irritation may occur at air concentrations below 2 mg/cu m. NaOH was shown to be not genotoxic by the Ames reversion test and DNA-repair test. NaOH was found to be not teratogenic in mice. NaOH was classified as Class D as to carcinogenicity.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
1310-73-2	SODIUM HYDROXIDE
28	CHEMICALS AND ALLIED PRODUCTS
281	INDUSTRIAL INORGANIC CHEMICALS
2812	ALKALIES AND CHLORINE

PB88-236237/REB
Compilation of Air Toxics Emission Inventory Questionnaires
EPA, Research Triangle Park, NC, OAQPS
Engineering-Science, Inc.
Jun 88, 207p, EPA-450/4-88-008, PC A10/MF A01

Abstract: To assist States and local agencies, EPA has developed programs to address the status of the air toxics problem in their localities. The document provides example questionnaires used by several State and local agencies for collecting emissions inventory data for air toxics. The report also contains discussion of considerations for developing such questionnaires and the elements that are likely to be included.

CL-VARIOUS	VARIOUS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB88-236716/REB
Progress Toward a General Analytical Method for Predicting Indoor Air Pollution in Buildings: Indoor Air Quality Modeling Phase 3 Report
EPA, Washington, DC
National Bureau of Standards
J. Axley
Jul 88, 25p, NBSIR-88/3814, PC A06/MF A01

Abstract: The interim report presents the results of Phase III of the National Bureau of Standards General Indoor Air Pollution Concentration Model Project. It describes: (1) a general element-assembly formulation of multi-zone contaminant dispersal analysis theory that provides a general framework for the development of detailed (element) models of mass transport phenomena that may affect contaminant dispersal in buildings; (2) an approach to modeling the dispersal of interactive contaminants involving contaminant mass transport phenomena; (3) an approach to modeling the details of contaminant dispersal driven by convection-diffusion processes in one-dimensional flow situations (e.g., HVAC ductwork); and (4) the features and use of CONTAM87, a program that provides a computational implementation of the theory and methods discussed.

CL-IAP	INDOOR AIR POLLUTANTS
DM	DISPERSION MODELING
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB88-238936/REB
Distribution of Volatile Organic Hydrocarbons and Aldehydes During the IACP (Integrated Air Cancer Project) Boise, Idaho Residential Study
EPA, Research Triangle Park, NC, ASRL
R. Zweidinger, et al.
Aug 88, 11p, EPA-600/D-88-148, PC A03/MF A01

Abstract: The U.S. EPA's Integrated Air Cancer Project (IACP) conducted a field study in Boise, Idaho during November 1986 - February 1987. As part of the study, samples were collected in ten pairs of homes, one with and one without a woodburning appliance. Paired homes were located near each other and concurrent sampling was conducted inside each home and outside the home not burning wood. A different pair of homes was sampled each week during the study. Averaged data from all homes showed total nonmethane organic carbon and total carbonyls to be higher inside either home type relative to outside. Average formaldehyde concentrations were slightly higher inside homes with woodstoves, but several non-woodburning homes had concentrations exceeding many of the woodburning homes. Benzene concentrations inside homes seemed related to mobile sources and were similar to outdoor levels.

CL-ALDEHYD	ALDEHYDES
CL-IAP	INDOOR AIR POLLUTANTS
CL-NMHC	NON-METHANE HYDROCARBONS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
50-00-0	FORMALDEHYDE
71-43-2	BENZENE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-239041/REB

Comparison of EPA (Environmental Protection Agency) Test House Data with Predictions of an Indoor Air Quality Model

EPA, Research Triangle Park, NC, AEERL

L. E. Sparks, M. D. Jackson, and B. A. Tichenor

Jul 88, 20p, EPA-600/D-88-163, PC A03/MF A01

Abstract: An easy-to-use indoor air quality model is described. It is multi-compartmented and based on a well-mixed mixing model. Sources and sinks are allowed in each compartment. A menu-driven fill-in-the-form user interface controls program flow and is used to obtain data from the user. On-screen graphical output is provided. The model estimates the effects of heating, ventilation, and air conditioning, air cleaning, room-to-room air movement, and natural ventilation on pollutant concentrations. Experiments conducted in the EPA test house using moth crystal cakes for model verification are described. The agreement between small chamber emission factors, model predictions, and test house data is very good. Predicted weight loss of the moth crystal cakes was within 5 percent of the measured weight loss. Predicted room concentrations of p-dichlorobenzene are within 20 percent of the measured values. Future directions for model development and experimental studies are discussed.

CL-IAP	INDOOR AIR POLLUTANTS
DM	DISPERSION MODELING
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
106-46-7	DICHLOROBENZENE,1,4-
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-241245/REB

Response to Request to Provide Assistance in Establishing Emergency Criteria Applicable to Elevated Indoor Radon Concentrations.

Structures Built on the Reading Prong

EPA, Washington, DC, SAB

Nov 85, 6p, SAB/RAC-86-005, PC A02/MF A01

Abstract: On September 4, 1985, the Acting Director of the Agency's Office of Radiation Programs requested the assistance of the Science Advisory Board in establishing emergency criteria applicable to elevated indoor radon concentrations in structures built on the Reading Prong. (1) Is a range of relative risk coefficients of 1.2 to 2.8 percent a reasonable range for the Agency to use in evaluating the risks associated with exposures at and above various alternative interim emergency action levels for the Reading Prong. (2) Are there any special considerations that should be taken into account in calculating the risks associated with short-term exposures to radon decay products versus lifetime exposures.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
RA	RISK ASSESSMENT
10043-92-2	RADON

PB88-241427/REB

Benzene Emissions from Coke By-Product Recovery Plants:

Background Information for Revised Proposed Standards

EPA, Research Triangle Park, NC, OAQPS

Jun 88, 277p, EPA-450/3-88-016B, PC A13/MF A01

Abstract: National emission standards to control emissions of benzene from new and existing coke by-product recovery plants are being promulgated under Section 112 of the Clean Air Act. The document contains summaries of public comments, EPA responses, and a discussion of differences between the proposed and revised proposed standards.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
33	PRIMARY METAL INDUSTRIES
331	BLAST FURNACE AND BASIC STEEL PRODUCTS
3312	BLAST FURNACES AND STEEL MILLS
71-43-2	BENZENE

PB88-242565/REB
Field Evaluation of Sampling and Analysis for Organic Pollutants in Indoor Air
EPA, Research Triangle Park, NC, EMSL
Battelle Columbus Division
J. C. Chuang, et al.
Aug 88, 182p, EPA-600/4-88-028, PC A09/MF A01

Abstract: The objectives of the study were to determine the feasibility of the use of newly developed indoor air samplers in residential indoor air sampling and to evaluate methodology for characterization of the concentrations of polynuclear aromatic hydrocarbons (PAH), PAH derivatives, and nicotine in residential air. Residential air sampling was conducted in Columbus, Ohio, during the winter of 1986/87. The PAH derivatives were found at much lower levels than their parent PAH. Higher average indoor levels of all but three target compounds were found compared to outdoor levels. The higher outdoor levels of these three compounds (naphthalene dicarboxylic acid anhydride, pyrene dicarboxylic acid anhydride, and 2-nitrofluoranthene) are probably due to atmospheric transformation. Cigarette smoking was identifed as the most significant contributor to indoor levels of PAH and PAH derivatives. Homes with gas heating systems appeared to have higher pollutant levels compared to homes with electric heating systems.

CL-IAP	INDOOR AIR POLLUTANTS
CL-PAH	POLYCYCLIC AROMATIC HYDROCARBONS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
13177-29-2	NITROFLUORANTHENE,2-
34119-23-8	NAPTHALENE DICARBOXYLIC ACID
54-11-5	L-NICOTINE
76895-43-7	PYRENE DICARBOXYLIC ACID ANHYDRIDE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-242698/REB
Health Effects of Waterborne Radon: Review of a Proposed Study
EPA, Washington, DC, SAB
Sep 86, 12p, SAB/RAC-86-028, PC A03/MF A01

Abstract: The Science Advisory Board's Radiation Advisory Committee was requested to review the scientific merit of a proposal to conduct an epidemiological study of radon in indoor air. The Board accepted the request and formed a Radioepidemiology Subcommittee which responded to two overriding scientific issues: Can further epidemiological study contribute to an understanding of the risks of lung cancer associated with household exposures. The Subcommittee concludes that scientific uncertainties in current epidemiological studies (chiefly studies of uranium miners) could be further reduced through direct investigations of the domestic population. Is the proposed study under review by the Office of Research and Development, entitled Health Effects of Waterborne Radon, appropriately designed to address the risk. For reasons cited in the attached report, the Subcommittee concludes that it is not appropriately designed.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
ES	EPIDEMIOLOGY STUDY
IA	INDOOR AIR
RA	RISK ASSESSMENT
10	METAL MINING
10043-92-2	RADON
109	MISCELLANEOUS METAL ORES
1094	URANIUM-RADIUM-VANADIUM ORES
7440-61-1	URANIUM
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB88-243290/REB
Draft Health Assessment Document for Nickel, 1986
EPA, Washington, DC, SAB
Jul 86, 35p, SAB/EHC-86-026, PC A03/MF A01

Abstract: The current data is clearer, more comprehensive, and responsive to its earlier comments. Additional comments were provided which should be incorporated in the final document before its final publication, particularly in the areas of speciation, pharmacokinetics and choice of epidemiology data. The Committee also concluded that the document appropriately characterized the current scientific literature on the carcinogenicity of nickel compounds.

CL-CARCIN	CARCINOGENS
CL-NICKEL	NICKEL COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
7440-02-2	NICKEL

PB88-245527/REB
Review of a Health Assessment Document for Beryllium
EPA, Washington, DC, SAB
Apr 87, 9p, SAB/EHC-87-028, PC A02/MF A01

Abstract: The Metals Subcommittee agrees with the conclusions reached in the draft document concerning the evidence of carcinogenicity using epidemiological and animal data. The Subcommittee was unable to research a consensus on advising the Agency on the use of existing data to estimate an upper bound to human risk. In addition, the Subcommittee continues to disagree with the Agency's choice of a model for the pharmacokinetics of inhaled beryllium particulates. These and other issues are detailed in the report.

CL-CARCIN	CARCINOGENS
CL-METAL	METALLIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
10	METAL MINING
109	MISCELLANEOUS METAL ORES
1099	METAL ORES, NEC
7440-41-7	BERYLLIUM

PB88-245659/REB
Report of the Indoor Air Quality Research Review Panel: Review of the Office of Research and Development's Plan for Determining Future Research Needs on Indoor Air Pollution
EPA, Washington, DC, SAB
Nov 86, 22p, SAB/EC-87-002, PC A03/MF A01

Abstract: The Panel concluded that while the indoor air research being conducted by the Environmental Protection Agency was of high quality, the research taken as whole did not constitute a "program" in indoor air quality. The major recommendations include: eight general conclusions and recommendations concerning current research in indoor air quality.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB88-246111/REB
Exposure Measurement for Air Pollution Epidemiology
EPA, Research Triangle Park, NC, HERL
Harvard School of Public Health
B. G. Ferris, J. H. Ware, and J. D. Spengler
Aug 88, 20p, EPA-600/D-88-167, PC A03/MF A01

Abstract: The chapter describes the evolution of air pollution epidemiology over a period when changes in pollution technologies have both lowered total exposures and dispersed them over vastly greater areas. Since personal exposure and microenvironmental measurements are expensive, studies oriented toward measurements of total exposure will be smaller and more intensive. The shift in emphasis to total human exposure also will affect health risk assessment and raise difficult issues in the regulatory domain. Considering that outdoor exposures (for which EPA has a regulatory mandate) occur in the context of exposures from other sources, the potential effect of regulatory action would probably be small. The regulatory issues are even more difficult for particulate air pollution since cigarette smoking is the strongest determinant of indoor levels but the EPA lacks regulatory responsibility for cigarette smoke.

CL-IAP	INDOOR AIR POLLUTANTS
CL-PM	PARTICULATE MATTER
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
ES	EPIDEMIOLOGY STUDY
IA	INDOOR AIR

PB88-248943/REB
Review of the Office of Radiation Programs' National Radon
Survey Design
EPA, Washington, DC, SAB
Oct 88, 18p, SAB/RAC-88-002, PC A03/MF A01

Abstract: The EPA Radiation Advisory Committee found that the document presented a valid approach to designing a national radon survey. In addition, the Committee felt that the study is important from a national health point of view and that all efforts must be made to insure that a survey of high quality is conducted. Major conclusions and recommendations are summarized in the report.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON

PB88-250261/REB
Emissions of Air Pollutants from Indoor Materials: An Emerging
Design Consideration
EPA, Research Triangle Park, NC, AEERL
W. G. Tucker
Aug 88, 16p, EPA-600/D-88-191, PC A03/MF A01

Abstract: The paper discusses the importance of indoor air quality in the acceptability of a building. The health and productivity of building occupants can be affected by the presence of certain organic chemical vapors, particles, and biological contaminants in the indoor air. Many of the materials used in buildings, either as structural materials or furnishings, or contents such as work supplies and maintenance materials, can be sources of indoor air contaminants. Concepts on material evaluation and selection are presented.

CL-IAP	INDOOR AIR POLLUTANTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
1522	RESIDENTIAL CONSTRUCTION, NEC
154	NONRESIDENTIAL BUILDING CONSTRUCTION
1541	INDUSTRIAL BUILDINGS AND WAREHOUSES
1542	NONRESIDENTIAL CONSTRUCTION, NEC
73	BUSINESS SERVICES
734	SERVICES TO BUILDINGS
7349	BUILDING MAINTENANCE SERVICES, NEC

PB88-250279/REB
Air Pollutants from Surface Materials: Factors Influencing
Emissions and Predictive Models
EPA, Research Triangle Park, NC, AEERL
W. G. Tucker
Aug 88, 15p, EPA-600/D-88-180, PC A03/MF A01

Abstract: The paper gives an overview of the state of knowledge of emissions from surface materials, the factors that influence those emissions, and models that can be used in evaluating emissions data. It concludes by focusing on indoor air quality control by controlling emissions, especially by producing and using low-emitting materials.

CL-IAP	INDOOR AIR POLLUTANTS
DM	DISPERSION MODELING
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
1522	RESIDENTIAL CONSTRUCTION, NEC
154	NONRESIDENTIAL BUILDING CONSTRUCTION
1541	INDUSTRIAL BUILDINGS AND WAREHOUSES
1542	NONRESIDENTIAL CONSTRUCTION, NEC

PB88-250329/REB
Human Lung Cancer Risks Due to Complex Organic Mixtures of Combustion Emissions
EPA, Research Triangle Park, NC, HERL
J. L. Mumford, X. He, and R. S. Chapman
Sep 88, 30p, EPA-600/D-88-197, PC A03/MF A01

Abstract: The study of Xuan Wei fuel use and lung cancer mortality and also the interim case-control study suggested an association between domestic smoky coal use and Xuan Wei lung cancer. The collaborative studies of physical characterization, chemical analysis, and toxicology further substantiated this linkage. The Xuan Wei residents who used smoky coal inhaled extremely high concentrations of most submicron-sized particles, which were composed mostly of organic compounds (72 percent), including mutagenic and carcinogenic organic compounds (especially in the aromatic and polar fractions). In comparison to wood and smokeless coal combustion emissions, the organic extracts of smoky coal emission particles showed a much higher activity of genotoxicity and carcinogenicity. The results all point to a strong etiological link between the complex organic mixtures from smoky coal emissions and Xuan Wei lung cancer.

CL-CARCIN	CARCINOGENS
CL-IAP	INDOOR AIR POLLUTANTS
CL-ORGANIC	ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
RA	RISK ASSESSMENT
HH	PRIVATE HOUSEHOLDS
HH1	PRIVATE HOUSEHOLDS
HH11	PRIVATE HOUSEHOLDS

PB88-250360/REB
Total Human Exposure and Indoor Air Quality: An Automated Bibliography (BLIS) with Summary Abstracts
EPA, Washington, DC, OADEMQA
SRA Technologies, Inc.
J. M. Shackelford, W. R. Ott, and L. A. Wallace
May 88, 466p, EPA-600/9-88-011, PC A20/MF A01

Abstract: The Bibliographic Literature Information System (BLIS) is a computerized data base with brief abstracts that comprehensively reviews literature on total human exposure to environmental pollutio Unpublished draft reports are listed, as well as final reports of the U.S. Government and other countries, reports by governmental researc contractors, journal articles, and other contributions. The bibliography covers publications on exposure models, new field data, and newly emerging research methodologies. Although the bibliography covers the entire field of human exposure methodology, emphasis is on those field studies measuring all the concentrations to which people may be exposed, including indoors, outdoors, or in-transit. Versions of the data base are available on floppy diskettes that can be accessed on MS-DOS computers with two-floppy-disk or hard-disk systems.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB89-102503/REB
Indoor Air Quality in Public Buildings, Volume 1
EPA, Washington, DC, OADEMQA
Research Triangle Institute
L. S. Sheldon, et al.
Aug 88, 535p, EPA-600/6-88-009A, PC A23/MF A01

Abstract: Indoor air quality was investigated in four buildings: a school, an office building, and two homes for the elderly. The main goals were to measure volatile organic compounds, inhalable particles, and air exchange rates indoors and outdoors at each building; select one new building and make several monitoring visits over a six-month period to determine changes in indoor air quality as the building aged; and measure emission rates from building materials and cleaning operations in the new building. All buildings had higher levels of VOCs indoors than outdoors, with the new building having an indoor-outdoor ratio for all VOCs of about 30 (declining after 2 months to about 10, and after 5 months to about 5). Cleaning operations emitted large quantities of halogenated VOCs, whereas paints, carpets, and adhesives emitted smaller quantities of aromatic and aliphatic compounds.

CL-ETS	ENVIRONMENTAL TOBACCO SMOKE
CL-IAP	INDOOR AIR POLLUTANTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
73	BUSINESS SERVICES
734	SERVICES TO BUILDINGS
7349	BUILDING MAINTENANCE SERVICES, NEC
80	HEALTH SERVICES
805	NURSING AND PERSONAL CARE FACILITIES
8051	SKILLED NURSING CARE FACILITIES
82	EDUCATIONAL SERVICES
821	ELEMENTARY AND SECONDARY SCHOOLS
8211	ELEMENTARY AND SECONDARY SCHOOLS
83	SOCIAL SERVICES
836	RESIDENTIAL CARE
8361	RESIDENTIAL CARE

PB89-102511/REB
Indoor Air Quality in Public Buildings, Volume 2
EPA, Research Triangle Park, NC, EMSL
Research Triangle Institute
L. Sheldon, et al.
Aug 88, 733p, EPA-600/6-88-009B, PC A99/MF E04

Abstract: Two separate but closely related studies of exposures to volatile organic compounds in buildings where people spend long periods of time were conducted. The report summarizes results obtained in six buildings: a new hospital, office and nursing home and another office, office/school and nursing home. At each building, sampling was performed at three indoor locations and a single outdoor location.

CL-IAP	INDOOR AIR POLLUTANTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
80	HEALTH SERVICES
805	NURSING AND PERSONAL CARE FACILITIES
8051	SKILLED NURSING CARE FACILITIES
806	HOSPITALS
8062	GENERAL MEDICAL & SURGICAL HOSPITALS
82	EDUCATIONAL SERVICES
821	ELEMENTARY AND SECONDARY SCHOOLS
8211	ELEMENTARY AND SECONDARY SCHOOLS
83	SOCIAL SERVICES
836	RESIDENTIAL CARE
8361	RESIDENTIAL CARE

PB89-104293/REB
Butadiene Measurement Technology
EPA, Ann Arbor, MI, OMS
Southwest Research Institute
L. R. Smith
Aug 88, 57p, EPA-460/3-88-005, PC A04/MF A01

Abstract: This program involved the development and validation of a gas chromatography procedure to measure 1,3-butadiene levels in vehicle exhaust. After development and validation, the procedure was used to measure 1,3-butadiene emissions from each of two gasoline-fueled light-duty test vehicles over duplicate cold-start FTP tests. The 1,3-butadiene emissions are reported in mg/mile and as total grams for each FTP test. In addition to the 1,3-butadiene measurements, regulated exhaust emission (HC, CO, and NOx in g/mile), other C4 hydrocarbons (n-butane, isobutane, etc., in mg/mile), and fuel economy (in mi/gallon) measurements were conducted for each FTP test.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SS	SOURCE SAMPLING
106-97-8	BUTANE
106-99-0	BUTADIENE,1,3-
11104-93-1	NITROGEN OXIDES
630-08-0	CARBON MONOXIDE
75-28-5	PROPANE, 2-METHYL-
8006-61-9	GASOLINE

PB89-117634/REB
National Radon Measurement Proficiency (RMP) Program: Cumulative Proficiency Report
EPA, Washington, DC, ORP
Sep 88, 172p, EPA-520/1-88-024, PC A08/MF A01

Abstract: The report is intended for use by Federal, State, and local officials, radon measurement companies, radon mitigation contractors, concerned homeowners, and other persons as an aid in selecting reliable sources of radon measurement services. The report includes a complete listing of participants who met EPA's National Radon Measurement Proficiency (RMP) Program requirements during Test Round 3, conducted between March through September 1988, providing each participant's performance record, service area, address, and telephone number. It also indicates whether participants are laboratories or distributors, and whether or not they have an EPA-approved quality assurance plan.

CL-IAP	INDOOR AIR POLLUTANTS
CL-RAD	RADIATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
10043-92-2	RADON
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-118400/RED
Particulate and Organic Emissions from Unvented Kerosene Heaters, Test House Study
EPA, Research Triangle Park, NC, AEERL
Acurex Corporation
M. D. Jackson, et al
1988, 12p, EPA-600/D-88-226, PC A03/MF A01

Abstract: The paper discusses a study of particulate and organic emissions from unvented kerosene heaters in a test house. Results from the test house are compared with those from large (room size) chambers, using EPA's indoor air quality model. In the test house, unvented kerosene heater particulate emissions were collected on Teflon-coated glass fiber filters. Organic emissions were trapped on Tenax-GC and XAD-2 sorbents, and the organic compounds were identified by gas chromatography/mass spectrometry. Target compounds were then quantified. CO, CO2, and SO2 were monitored during each test. Weather data were also collected for correlation with emissions and house characterization data. The test house is a typical three-bedroom, two-bath, single-story frame house with crawl space. It has natural gas heat and electric central air conditioning. The house is 8 years old and has the energy efficiency features of homes built during the early 1980s.

CL-IAP	INDOOR AIR POLLUTANTS
CL-ORGANIC	ORGANIC COMPOUNDS
CL-PM	PARTICULATE MATTER
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
124-38-9	CARBON DIOXIDE
630-08-0	CARBON MONOXIDE
7446-09-5	SULFUR DIOXIDE
8001-20-6	KEROSENE
8006-61-9	GASOLINE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-118434/RED
Asbestos Problem Resolution
EPA, Cincinnati, OH, RREL
W. C. Cain, R. C. Wilmoth, and T. J. Powers
Oct 88, 10p, EPA-600/D-88-209, PC A02/MF A01

Abstract: The paper discusses the variety of regulations applicable to asbestos in buildings, ranging from the Clean Air Act to the Asbestos Hazard Emergency Response Act. Remedial actions are discussed (removal, enclosure, and encapsulation) and the ongoing research related to those areas is briefly described. Operational and interpretational problems with encapsulant use are also discussed.

CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
1332-21-4	ASBESTOS

PB89-118681/REB
Evaluation of Perchloroethylene Emissions from Dry Cleaned Fabrics
EPA, Research Triangle Park, NC, AEERL
B. A. Tichenor, L. E. Sparks, and M. D. Jackson
Oct 88, 51p, EPA-600/2-88-061, PC A04/MF A01

Abstract: The report gives results of short-term evaluation of perchloroethylene (perc) from dry cleaned fabrics to determine: (1) how the introduction of fresh dry cleaning into a house affects the indoor concentration of perc, and (2) the effectiveness of "airing-out" for reducing perc emissions. Small chamber tests were conducted to determine perc emission characteristics for three fabrics at several temperatures and air exchange rates. Test house studies were conducted to determine the indoor concentration of perc due to the placement of dry cleaned clothing in the house. Based on study results, and assuming that test conditions were representative of normal dry cleaning and consumer practices, the following conclusions were reached: (1) emissions from freshly dry cleaned clothing cause elevated levels of perchloroethylene in residences; and (2) for the three fabrics tested, "airing-out" of dry cleaned clothing by consumers will not be effective in reducing perchloroethylene emissions. Significant variations in dry cleaning practices and/or in the mix of fabrics and clothing being cleaned could provide different results and conclusions.

CL-IAP	INDOOR AIR POLLUTANTS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
127-18-4	TETRACHLOROETHYLENE
72	PERSONAL SERVICES
721	LAUNDRY, CLEANING, & GARMENT SERVICES
7215	COIN-OPERATED LAUNDRIES AND CLEANING
7216	DRY CLEANING PLANTS, EXCEPT RUG
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-122162/REB
Application of Radon Reduction Methods
EPA, Research Triangle Park, NC, AEERL
R. B. Mosley, and D. Henschel
Aug 88, 108p, EPA-625/5-88-024, PC A06/MF A01

Abstract: The document is intended to aid homeowners and contractors in diagnosing and solving indoor radon problems. It will also be useful to State and Federal regulatory officials and many other persons who provide advice on the selection, design, and operation of radon reduction methods for houses. Topics include: background information, measuring radon concentrations, determining the sources of radon, diagnostic testing to select a mitigation method, selecting and designing a mitigation system, installing a mitigation system, post-installation diagnostics, post-mitigation monitoring, additional radon reduction techniques, and sources of information.

CL-IAP	INDOOR AIR POLLUTANTS
CL-RAD	RADIATION
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
10043-92-2	RADON
15	GENERAL BUILDING CONTRACTORS
152	RESIDENTIAL BUILDING CONSTRUCTION
1521	SINGLE-FAMILY HOUSING CONSTRUCTION
17	SPECIAL TRADE CONTRACTORS
171	PLUMBING, HEATING, AIR CONDITIONING
1711	PLUMBING, HEATING, AIR CONDITIONING
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-124366/REB
Status of U.S. EPA's (Environmental Protection Agency's) Sludge Incinerator Regulations
EPA, Cincinnati, OH, RREL
E. P. Crumpler, A. B. Rubin, and H. E. Bostian
Nov 88, 8p, EPA-600/D-88-231, PC A02/MF A01

Abstract: The report describes a potential regulatory approach that EPA could use for controlling sewage sludge incinerators. The approach utilizes a most exposed individual risk assessment to ensure that sludge incineration air emissions will not cause an unacceptable health risk. An incinerator facility can demonstrate compliance using a three-tiered system which proceeds from a simple worst case calculation to a more resource intensive site-specific demonstration. A key part of the tiering system is development of an accurate and reliable emissions data base for U.S. sludge incinerators which can be used to develop reasonable worst case emission control factors. The results of testing to date are discussed in the paper.

CL-SEWSLUD	SEWAGE SLUDGE
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
PRA	PRE-REGULATORY ASSESSMENT
RA	RISK ASSESSMENT
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4953	REFUSE SYSTEMS

PB89-124630/REB
Development of a High Volume Surface Sampler for Pesticides in Floor Dust
EPA, Research Triangle Park, NC, EMSL
Engineering Plus
J. W. Roberts, and M. G. Ruby
Nov 88, 51p, EPA-600/4-88-036, PC A04/MF A01

Abstract: A high volume surface sampler (HVS2) for the collection of house dust and the semivolatile organics (including pesticides) in house dust has been designed and tested. The sampler consists of an intake nozzle, cyclone, and filter. The position of the nozzle is regulated by the static pressure in the nozzle. The HVS2 operates at approximately 9.5 L/s (20 cfm) and can collect more than 2 g of floor dust from a rug in an average clean residence in less than 4 minutes. Over 95 percent of the sample is retained in the cyclone. Both house dust and a test dust were spiked with 10 or 20 ppm chloropyrifos and dieldrin and 50 or 100 ppm diazinon. Virtually all the pesticide was retained in the cyclone or on the filter. Conventional vacuum cleaners, small hand-held vacuum cleaners, gloves, semi-sticky paper, and carpet squares were not satisfactory substitutes. A recommended sampling procedure for the use of the HVS2, based on the test experiences reported here, is provided.

CL-IAP	INDOOR AIR POLLUTANTS
CL-PEST	PESTICIDES
CL-SVOC	SEMIVOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
2921-88-2	CHLOROPYRIFOS
60-57-1	DIELDRIN
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-129019/REB
Estimating Air Toxics Emissions from Organic Liquid Storage Tanks
EPA, Research Triangle Park, NC, OAQPS
Midwest Research Institute
P. Murphy
Oct 88, 121p, EPA-450/4-88-004, PC A06/MF A01

Abstract: To assist groups interested in inventorying air emissions of potentially toxic substances, EPA is preparing a series of documents that compile available information on sources and emissions of toxic substances. The document deals specifically with methods to estimate air toxics emissions from organic liquid storage tanks. Its intended audience includes Federal, State, and local air pollution personnel and others interested in making estimates of toxic air pollutants emitted from organic liquid storage tanks. The document presents equations for estimating air toxics emissions from organic liquid storage tanks and demonstrates through examples how to use the equations. Information is also provided on storage tanks typically associated with source categories.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC

PB89-129027/XAB
Multiple Air Toxics Exposure Study Working Paper Number 3. Urban Air Toxics Exposure Model: Development and Application
EPA, Research Triangle Park, NC, OAQPS
South Coast Air Quality Management District
Nov 88, 127p, EPA-450/4-88-013, PC A07/MF A01

Abstract: The South Coast Air Quality Management District of California has completed a Multiple Air Toxics Exposure Study (MATES), which examines the additive risk from a number of air toxics on an urban area. The project, though partially funded by EPA, is an example of how a State or local agency may approach assessing their local air toxics risks as is encouraged by EPA's Urban Air Toxics Program, which results from EPA's Air Toxics Strategy. The report is a summary of the methods used by the California agency. Though not intended as an endorsement of the entire contents of the report, EPA is reproducing their report (Working Paper Number 3) to benefit and encourage other agencies which may be contemplating such an assessment.

CL-VARIOUS	VARIOUS
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB89-129456/REB
Integrated Approach to the Characterization of Particle and Organic Emissions from Unvented Kerosene Space Heaters
EPA, Research Triangle Park, NC, AEERL
John B. Pierce Foundation Lab
J. B. White, B. P. Leaderer, and P. M. Boone
Nov 88, 12p, EPA-600/D-88-251, PC A03/MF A01

Abstract: The paper reports the results from a three-phase study characterizing and modeling particle and organic emissions from unvented kerosene space heaters, a major source of indoor air contaminants. In Phase I, emissions from 12 heaters covering a range of design types and Btu ratings, were evaluated. Aerosol mass, size distribution, extractable mass, bioassay, and trace element content, as well as conventional gas (CO, NOx, etc.) measurements were made for all the heaters tested, while VOCs and semivolatiles measurements were made for a subsample of the heaters. In Phase II, a detailed characterization of particle and organic emissions for four heaters was performed. Two of the heaters subjected to the detailed chamber testing in Phase II were then used in Phase III, which consisted of a series of heater runs in the EPA test house in North Carolina. The test house experiments were designed to validate model predictions based on the chamber studies in Phase II.

CL-IAP	INDOOR AIR POLLUTANTS
CL-ORGANIC	ORGANIC COMPOUNDS
CL-PM	PARTICULATE MATTER
CL-SVOC	SEMIVOLATILE ORGANIC COMPOUNDS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR
SS	SOURCE SAMPLING
11104-93-1	NITROGEN OXIDES
630-08-0	CARBON MONOXIDE
8001-20-6	KEROSENE
88	PRIVATE HOUSEHOLDS
881	PRIVATE HOUSEHOLDS
8811	PRIVATE HOUSEHOLDS

PB89-133607/REB
Indoor Air Quality Model Version 1.0 Documentation
EPA, Research Triangle Park, NC, AEERL
L. E. Sparks
Sep 88, 142p, EPA-600/8-88-097A, PC A07/MF A01

Abstract: For system on diskette, see PB89-133615. The report presents a multiroom model for estimating the impact of various sources on indoor air quality (IAQ). The model is written for use on IBM-PC and compatible microcomputers. It is easy to use with a menu-driven user interface. Data are entered using a fill-in-a-form interface. Model results are presented in graphic and tabular form. The model treats each room as a well-mixed chamber that can contain both sources and sinks. The model allows analysis of the impact of inter-room air flows, HVAC (heating, ventilating, and air conditioning) systems, and air cleaners on IAQ. Model predictions are compared with experimental data from EPA's IAQ test house. The model predictions are in good agreement with the experimental data. The model is a useful tool for analyzing IAQ issues. The model requires an IBM-PC or compatible computer, DOS 2.1 or higher, one disk drive, and at least 512 k-bytes of memory. A graphics adapter and monitor are required to display the graphics output from the model.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB89-133615/REB
Indoor Air Quality Version 1.0 Model-Simulation
EPA, Research Triangle Park, NC, AEERL
L. E. Sparks
Sep 88, EPA-SW/DK-89-010, CP D01

Abstract: The software is contained on a 5 1/4 inch diskette, double density (360K), compatible with the IBM PC/XT microcomputer. The diskette is in the ASCII format. Price includes documentation, PB89-133607. The disk contains a microcomputer model (IBM-PC or compatible) to estimate indoor air quality in a multi-room building. The model treats each room as a well-mixed chemical reactor that can contain pollutant sources and sinks. HVAC (heating, ventilating, and air conditioning) systems, air cleaners, interroom air flows, and air exchange with the outdoor are included in the model. The model is menu-driven. Data entry is handled with a fill-in-the-form interface. Model predictions are in good agreement with experimental data. Software Description: The program is written in the BASIC programming language for implementation on an IBM-PC/XT or compatible equipment, using MS DOS 2.1 or better operating system. The system has 512K of memory. A graphics adapter and monitor are required to display the graphics output from the model.

CL-IAP	INDOOR AIR POLLUTANTS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
IA	INDOOR AIR

PB89-135644/XAB
Toxic Air Pollutant Emission Factors: A Compilation for Selected Air Toxic Compounds and Sources
EPA, Research Triangle Park, NC, OAQPS
Radian Corporation
A. A. Pope, P. A. Cruse, and C. C. Most
Oct 88, 536p, EPA-450/2-88-006A, PC A23/MF A01

Abstract: The report presents emission factors for selected air toxic compounds and sources, and associates the emission factors to levels of source activity. The emission factors in the report were compiled from a review of the literature for more than 200 air toxic compounds. Emission factors in the report are sorted by pollutant and source. Also included are brief descriptions of emission factors derivations, notes on control measures associated with factors, and references. A software system containing the air toxics emission factors in the compilation was developed for easy access and updating of the data. The purpose of the report is to offer a technical service to air pollution control agencies in performing preliminary estimates of air toxics emissions.

CL-VARIOUS	VARIOUS
CT	CONTROL TECHNOLOGY DOCUMENT
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB89-135966/XAB
Portland Cement Plants - Background Information for Promulgated Revisions to Standards
EPA, Research Triangle Park, NC, OAQPS
Jul 88, 66p, EP-450/3-85-033B, PC A04/MF A01

Abstract: Revisions to the monitoring, recordkeeping, and reporting requirements associated with standards of performance for portland cement plants (40 CFR 60.60) were proposed in the Federal Register on September 10, 1985 (50 FR 36956). These requirements are being promulgated under the authority of Section 114 of the Clean Air Act. The document contains a summary of the comments on the proposed revisions to the standards, the Agency's response to the comments, and a summary of the changes to the revised standards since proposal.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
32	STONE, CLAY, AND GLASS PRODUCTS
324	CEMENT, HYDRAULIC
3241	CEMENT, HYDRAULIC

PB89-138457/XAB
Toxic Air Pollutant Emission Factors: Information Storage and Retrieval System, User's Manual
EPA, Research Triangle Park, NC, OAQPS
Radian Corporation
Oct 88, 97p, EPA-450/2-88-006B, PC A05/MF A01

Abstract: The report presents instructions on the Air Toxics Emission Factor data management system. The system was designed to allow easy access and updates to the emission factor data presented in the accompanying EPA report, "Toxic Air Pollutant Emission Factors - A Compilation for Selected Air Toxic Compounds and Source," EPA-450/2-88-006A. The software system is an IBM PC-based application that contains a listing of emission factors categorized by pollutant name, Chemical Abstracts Services (CAS) number, industrial process description, Standard Industrial Classification (SIC) code, emission source description, and source classification code (SCC). The program has modules that allow users to search, add, edit, and print data. The purpose of the report is to document the usage of the system. EPA is making available the system and data to agency users on two regular (360 KB) diskettes or one high density (1.2 MB) diskette.

CL-VARIOUS	VARIOUS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY

PB89-138689/XAB
Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC (Volatile Organic Compounds) and VHAP (Volatile Hazardous Air Pollutants)
EPA, Research Triangle Park, NC, OAQPS
Oct 88, 109p, EPA-450/3-88-010, PC A06/MF A01

Abstract: EPA has developed a Protocol for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP. The protocol provides several methods for estimating emissions from equipment leaks. These methods range from the application of average emission factors for the equipment component inventory to the use of bagging data for generating unit-specific leak rate/screening value correlations. In addition, the protocol provides technically sound methods of source screening and mass emissions sampling (bagging). The document will help facilities generate accurate plant-specific equipment leak emissions.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EF	EMISSION FACTOR
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
SA	SOURCE ASSESSMENT

PB89-148274/XAB
Reduction of Volatile Organic Compound Emissions from the Application of Traffic Markings
EPA, Research Triangle Park, NC, OAQPS
Midwest Research Institute
G. A. Aurand, et al.
Aug 88, 53p, EPA-450/3-88-007, PC A04/MF A01

Abstract: Traditional traffic marking materials (solvent-borne paints) are a source of volatile organic compound (VOC) emissions. The study was conducted to evaluate alternative traffic marking techniques that can be used to reduce VOC emissions from this source. The document provides information on traffic marking application processes, VOC emissions and emission reductions, and costs associated with the alternative marking techniques. The primary conclusions from the study are: (1) the use of available low- and zero-VOC alternatives can result in VOC emission reductions ranging from 15% to 100%; (2) the annualized costs for the alternative marking techniques are less than or equivalent to those for traditional solvent-borne paints; and (3) the performance of the alternative markings is equivalent to or better than that of traditional solvent-borne paints.

CL-SOLVENT	SOLVENTS
CL-VOC	VOLATILE ORGANIC COMPOUNDS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
16	HEAVY CONSTRUCTION CONTRACTORS
161	HIGHWAY AND STREET CONSTRUCTION
1611	HIGHWAY AND STREET CONSTRUCTION

PB89-148282/XAB
Reduction of Volatile Organic Compound Emissions from Automobile Refinishing
EPA, Research Triangle Park, NC, OAQPS
Midwest Research Institute
C. Athey, et al.
Oct 88, 98p, EPA-450/3-88-009, PC A05/MF A01

Abstract: Automobile refinishing (repainting) is a source of volatile organic compound (VOC) emissions. The study was conducted to evaluate available techniques that can be used to reduce VOC emissions from this source. The document provides information on the steps involved in the refinishing process which result in emissions, available emission reduction techniques, VOC emission levels, VOC emission reductions, and costs associated with the reduction techniques. Techniques investigated include (1) reduced-VOC cleaners, (2) replacement of lacquers with enamels, (3) replacement of enamels with polyurethanes, (4) replacement of solvent-borne primers with waterborne primers, (5) replacement of conventional clearcoats with higher-solids clearcoats, (6) installation of cleanup solvent recovery systems, (7) replacement of conventional spray guns with higher transfer efficiency equipment, and (8) add-on controls. The primary conclusions from the study are: (1) the use of available techniques could result in VOC emission reductions ranging from 3-50% of the current estimated baseline emissions from typical refinishing shops; and (2) the annualized costs for many of the available techniques are less than the cost of current practices.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
CT	CONTROL TECHNOLOGY DOCUMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
75	AUTO REPAIR, SERVICES, AND GARAGES
753	AUTOMOTIVE REPAIR SHOPS
7531	TOP AND BODY REPAIR SHOPS

RI0187001
GUIDELINES FOR AIR QUALITY MODELLING FOR AIR TOXICS SOURCES
RHODE ISLAND DEPT OF ENV. MGMT., DIV. OF AIR & HAZ. MATERIALS
05/26/87, 20 pages

DM	DISPERSION MODELING
RI01	RHODE ISLAND DEPT OF ENV. MGMT., DIV. OF AIR & HAZ. MATR
STATE/LOC	STATE OR LOCAL AGENCY

TN0368-02-3892
EVALUATION OF HEXACHLOROCYCLOPENTADIENE EMISSIONS AT VELSICOL CHEMICAL CORPORATION, MEMPHIS, TENNESSEE
MEMPHIS-SHELBY CO. DEPT. OF HEALTH
RICHARD REHM, RAYMOND HILL, STEPHEN WALATA - ALLIANCE TECHNOLOGIES CORPORATION.
04/01/88, 49 pages

THIS REPORT PRESENTS THE RESULTS OF AN ASSESSMENT OF (HEX) HEXACHLOROCYCLOPENTADIENE AIR EMISSIONS, POTENTIAL CONTROLS, PREDICTED AMBIENT CONCENTRATIONS & HEALTH EFFECTS AT AMBIENT CONCENTRATIONS FOR VELSICOL CHEMICAL CORPORATION'S FACILITIES IN MEMPHIS, TN. VELSICOL/MEMPHIS IS ONLY ONE OF TWO FACILITIES IN THIS COUNTRY WHICH MANUFACTURES HEX, THE OTHER BEING VELSICOL'S MARSHALL, ILL. FACILITY. HEX IS AN INTERMEDIATE USED IN THE PRODUCTION OF CHLORENDIC ANHYDRIDE, A FLAME RETARDANT & A VARIETY OF CHLORINATED PESTICIDES, INCLUDING HEPTACHLOR AND CHLORDANE. BOTH CHLORENDIC ANHYDRIDE & HEPTACHLOR ARE ALSO PRODUCED AT VELSIDOL, MEMPHIS. HEX HAS PROVEN TO BE A POTENT IRRITANT AND THERE IS EVIDENCE IN THE LITERATURE INDICATING AN ASSOCIATION BETWEEN HEX EXPOSURE & SEVERAL NONCANCER HEALTH EFFECTS.

CT	CONTROL TECHNOLOGY DOCUMENT
DM	DISPERSION MODELING
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
HA	HEALTH ASSESSMENT
PD	AIR TOXICS CONTROL PROGRAM SUPPORT DOCUMENT
RA	RISK ASSESSMENT
SA	SOURCE ASSESSMENT
STATE/LOC	STATE OR LOCAL AGENCY
TN03	MEMPHIS-SHELBY CO. DEPT. OF HEALTH
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2865	CYCLIC CRUDES AND INTERMEDIATES
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC
77-47-4	HEXACHLOROCYCLOPENTADIENE

VA0185001
Emission Standards for Non-criteria Pollutants
Rule 4-3, Existing Sources; Rule 5-3 New Sources
VIRGINIA AIR POLLUTION CONTROL BOARD
01/01/85, 8p pages

Each rule defines non-criteria pollutant, fixes TLVs as 1983 ACGIH rates of emission as a function of TLV.

RR	REGULATIONS OR RULES
STATE/LOC	STATE OR LOCAL AGENCY
VA01	VIRGINIA AIR POLLUTION CONTROL BOARD

VT0101
RUTLAND RESOURCE RECOVERY FACILITY SITE SPECIAL ENVIRONMENTAL ASSESSMENT - QUALITY ASSURANCE PLAN
VERMONT DEPT. ENVIRONMENTAL CONS, AIR POLLUTION CNT. DIV.
G. A. HEIL, B. J. FITZGERALD
11/01/87, 34 pages

QUALITY ASSURANCE PLAN SPONSORED BY EPA ORD.

EPA	ENVIRONMENTAL PROTECTION AGENCY
STATE/LOC	STATE OR LOCAL AGENCY
VT01	VERMONT DEPT. ENVIRONMENTAL CONS, AIR POLLUTION CNT. DIV.

WA02 PSAPCA 13
URBAN AIR TOXICS MITIGATION STUDY - PHASE I
PUGET SOUND AIR POLLUTION CONTROL AGENCY
DR. TIMOTHY LARSON, DR DAVID KALMAN, SHI-ZOOM WANG AND GREG NOTHSTEIN
04/30/89, 55 pages

THE FOCUS OF THIS STUDY IS ON THE CANCER RISK ASSOCIATED WITH AIR TOXICS. STUDY FOCUSES ON THE PRESENCE AND TECHNIQUES OF MEASUREMENT OF SEMI-VOLATILE ORGANIC COMPONENTS OF AMBIENT PARTICULATES < 10 UM IN SIZE. METHODS WERE DEVELOPED TO ASSAY ORGANIC SPECIES IN THE AMBIENT PARTICULATE SAMPLES. STUDY WAS CONDUCTED DURING FALL AND WINTER AIR STAGNATION EPISODES. CONCLUSIONS INCLUDE LEVELS OF ORGANICS IN GENERAL AND SPECIFIC TOXICANTS IN PARTICULAR REACH UNHEALTHFUL LEVELS DURING PERIODS OF MODESTLY ELEVATED LEVELS OF PM10 CONCENTRATIONS. ELEVATION PATTERNS INDICATE NIGHTTIME IS WORSE THAN DAYTIME, AND LEVELS IN SUBURBAN NON-INDUSTRIAL AREAS CAN EXCEED THOSE IN MIXED URBAN INDUSTRIAL AREAS. WOODSMOKE CONCENTRATIONS EXCEED AUTO AND OTHER SOURCES IN NON-INDUSTRIAL RESIDENTIAL AREAS.

AM	AMBIENT MONITORING
CS	CASE STUDY
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
STATE/LOC	STATE OR LOCAL AGENCY
TT	TOXICITY TESTING
WA02	PUGET SOUND AIR POLLUTION CONTROL AGENCY

51 FR 34042 09-24-86
Guidelines for Estimating Exposures
EPA, Washington, DC, OHEA

Abstract: Final Guidelines for Estimating Exposures. The EPA issued five guidelines fo assessing the health risks of environmental pollutants. These are: Guidelines for Carcinogen Risk Assessment (51 FR 33992), Guidelines for Estimating Exposures (51 FR 34042), Guidelines for Mutagenicity Risk Assessment (51 FR 34006), Guidelines for the Health Assessment of Suspect Developmental Toxicants (51 FR 34028) and Guidelines for the Health Risk Assessment of Chemical Mixtures (51 FR 34014). The Guidelines for Estimating Exposures are intended to guide agency analysis of exposure assessment data in line with the policies and procedures established in the statutes administered by the EPA. These Guidelines took effect September 24, 1986 and complete the first round of risk assessment guidelines development. These Guidelines will be revised, and new guidelines will be developed, as appropriate.

EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RDG	REGULATORY DEVELOPMENT GUIDANCE

53 FR 12008 04-12-88
Extension to Innovative Technology Waiver for New Source Performance Standards for Kraft Pulp Mills
EPA, Research Triangle Park, NC, ESD

Abstract: Final rule. On August 21, 1987 (52 FR 31633), EPA proposed to amend the standards of performance for kraft pulp mills by extending the time period granted for an innovative technology waiver for operation of a new batch digester at the OI Valdosta and Timber STS, Inc. (OI) kraft pulp mill in Valdosta, Georgia, pursuant to Section 111(j) of the Clean Air Act, as amended, 42 U.S.C. 7411(j). This action promulgates the extension to the waiver. Effective date: April 12, 1988.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
26	PAPER AND ALLIED PRODUCTS
261	PULP MILLS
2611	PULP MILLS

53 FR 12962 04-20-88
Standards of Performance for New Stationary Sources; State Plans for Designated Facilities
EPA, Research Triangle Park, NC, ESD

Abstract: Proposed amendments and notice of public hearing. This proposal would amend the existing requirement in 40 CFR 60.22(a) that a standard of performance for control of a designated pollutant from new sources must be promulgated before the Administrator may publish a draft emission guideline document on control of that designated pollutant from existing facilities. The effect of the proposed amendment would be to allow a draft or final emission guideline document to be published pursuant to Section 111(d) of the Clean Air Act at the same time as the new source performance standard for similar new sources is proposed or promulgated pursuant to Section 111(b). A public hearing will be held, if requested, to provide interested parties an opportunity for oral presentations of data or views concerning the proposed amendment.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD

53 FR 13318 04-22-88
Draft Health Assessment Document for Methyl Isocyanate
EPA, Research Triangle Park, NC, ECAO

Abstract: Notice of public meeting. This notice announces a workshop to be held by the Environmental Criteria and Assessment Office of EPA's Office of Health and Environmental Assessment to facilitate preparation of an external review draft of a Health Assessment Document for Methyl Isocyanate. The conference site is the Ramada Inn, 1520 Blue Ridge Road, Raleigh, North Carolina. The workshop will be held on May 2 and 3, 1988.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
HA	HEALTH ASSESSMENT
624-83-9	METHYL ISOCYANATE

53 FR 19300 05-27-88
Standards of Performance for New Stationary Sources; Surface Coating of Plastic Parts for Business Machines; Correction
EPA, Research Triangle Park, NC, ESD

Abstract: Final rule. This document corrects a final rule on standards of performance for new stationary sources for surface coating of plastic parts for business machines. This action is necessary to correct an inadvertent inclusion of delegable functions in the list of nondelegable functions in Section 60.726 of the regulation that was published in the Federal Register on January 29, 1988 (53 FR 2672). Effective date: January 29, 1988.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
35	MACHINERY, EXCEPT ELECTRICAL
357	OFFICE AND COMPUTING MACHINES
3579	OFFICE MACHINES, NEC

53 FR 20162 06-02-88
Integrated Risk Information System (IRIS); Health Risk Assessment; Guidelines, Etc.
EPA, Cincinnati, OH, ECAO

Abstract: Notice; availability of the Integrated Risk Information System (IRIS). The Integrated Risk Information System (IRIS) is an electronic on-line data base of the U.S. EPA that provides risk assessment and regulatory information on chemical substances. This notice describes IRIS and provides information on how to access this health risk information data base.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 24141 06-27-88

Draft Updated Assessments for 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)

EPA, Washington, DC, OHEA

Abstract: Availability of external review drafts. This notice announces the availability of two external review drafts for public review and comment, as follows: (1) A Cancer Risk-Specific Dose Estimate for 2,3,7,8-TCDD, EPA-600/6-88-007Aa and Appendices A through F, EPA-600/6-88-007Ab; and (2) Estimating Exposures to 2,3,7,8-TCDD, EPA-600/6-88-005A. These documents will be the subject of a Science Advisory Board meeting to be held later in the year.

CL-CARCIN	CARCINOGENS
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT
1746-01-6	TETRACHLORODIBENZODIOXIN,2,3,7,8-,P-

53 FR 24834 06-30-88

Proposed Guidelines for Assessing Female Reproductive Risk

EPA, Washington, DC, OHEA

Abstract: Proposed guidelines for assessing female reproductive risk and request for comments. The EPA is proposing new guidelines for assessing the human health risks of environmental pollutants. This notice proposes guidelines for assessing female reproductive risk. The Proposed Guidelines for Assessing Female Reproductive Risk are intended to guide Agency analysis of data on female reproductive toxicants according to appropriate scientific standards, and in line with the policies and procedures established in the statutes administered by EPA. These proposed guidelines were developed as part of an interoffice guidelines development program under the auspices of the Office of Health and Environmental Assessment in the Agency's Office of Research and Development. The current proposal incorporates comments from external and internal peer reviewers. Comments from the public and EPA's Science Advisory Board (SAB) will be reviewed and incorporated into a revised draft that will be submitted first to the Risk Assessment Forum and then to the Risk Assessment Council for review. The Risk Assessment Council will consider comments from the public, the SAB, and the Risk Assessment Forum in their recommendations on final guidelines to the EPA Administrator.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 24850 06-30-88

Proposed Guidelines for Assessing Male Reproductive Risk

EPA, Washington, DC, OHEA

Abstract: Proposed guidelines for assessing male reproductive risk and request for comments. The EPA is proposing new guidelines for assessing the human health risks of environmental pollutants. This notice proposes guidelines for assessing male reproductive risk. The Proposed Guidelines for Assessing Male Reproductive Risk are intended to guide Agency analysis of data on male reproductive toxicants according to appropriate scientific standards, and in line with the policies and procedures established in the statutes administered by EPA. These proposed guidelines were developed as part of an interoffice guidelines development program under the auspices of the Office of Health and Environmental Assessment in the Agency's Office of Research and Development. The current proposal incorporates comments from external and internal peer reviewers. Comments from the public and EPA's Science Advisory Board (SAB) will be reviewed and incorporated into a revised draft that will be submitted first to the Risk Assessment Forum and then to the Risk Assessment Council for review. The Risk Assessment Council will consider comments from the public, the SAB, and the Risk Assessment Forum in their recommendations on final guidelines to the EPA Administrator.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 28496 07-28-88
National Emission Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants
EPA, Research Triangle Park, NC, ESD

Abstract: Proposed rule and notice of public hearing. On 12-08-87, the D.C. Circuit Court granted EPA's motion for a voluntary remand of the benzene equipment leak standard and the withdrawal of proposed standards for ethylbenzene/styrene (EB/S) and maleic anhydride process vents, and benzene storage vessels in light of the same court's recent decision on the vinyl chloride standard [Natural Resources Defense Council, Inc. versus EPA, 824 F.2d 1146 (1987)] (hereafter referred to as Vinyl Chloride). The court ordered EPA to propose action on the above standards within 180 days and to promulgate them within 360 days. The order was subsequently modified to extend the time for proposal of actions by 45 days. This notice presents the Administrator's reexamination of the benzene withdrawals and the benzene equipment leak standard. The Agency's reassessment of the proposed coke by-product recovery plants standard is also presented. Also included is a response to public comments on the previously proposed coke by-product recovery plants standard. This notice proposes four policy approaches that could be used in setting national emission standards for hazardous air pollutants (NESHAP) and would be consistent with the court's decision in Vinyl Chloride.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
100-41-4	ETHYL BENZENE
100-42-5	STYRENE
108-31-6	MALEIC ANHYDRIDE
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2865	CYCLIC CRUDES AND INTERMEDIATES
29	PETROLEUM AND COAL PRODUCTS
291	PETROLEUM REFINING
2911	PETROLEUM REFINING
33	PRIMARY METAL INDUSTRIES
331	BLAST FURNACE AND BASIC STEEL PRODUCTS
3312	BLAST FURNACES AND STEEL MILLS
34	FABRICATED METAL PRODUCTS
344	FABRICATED STRUCTURAL METAL PRODUCTS
3443	FABRICATED PLATE WORK (BOILER SHOPS)
71-43-2	BENZENE
75-01-4	VINYL CHLORIDE

53 FR 32656 08-26-88
Intent to Review Guidelines for Carcinogen Risk Assessment
EPA, Washington, DC, OHEA

Abstract: Notice of intent to review guidelines for carcinogen risk assessment and request for information. On September 24, 1986, the U.S. Environmental Protection Agency (EPA) issued risk assessment guidelines relating to environmental carcinogens, mutagens, developmental toxicants, chemical mixtures, and estimating exposure (51 FR 33992-34054). Today's notice announces EPA's intent to review the 1986 Guidelines for Carcinogen Risk Assessment, identifies areas under study for possible revision, and outlines intended procedures. Any amendments are expected to be formally proposed for public review during the fall of 1989.

CL-CARCIN	CARCINOGENS
CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 32658 08-26-88
Proposed Guidelines for Assessing Female and Male Reproductive Risk; Extension of Public Comment Period
EPA, Washington, DC, OHEA

Abstract: Extension of public comment period on proposed guidelines for assessing female and male reproductive risk. On June 30, 1988, EPA proposed Guidelines for Assessing Female Reproductive Risk (53 FR 24834, 53 FR 24850), with 60-day public comment periods ending on August 29, 1988. In response to several requests, EPA is extending the deadline for comments beyond the summer vacation months to September 30, 1988.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 38892 10-03-88
Standards of Performance for New Stationary Sources; Magnetic Tape Manufacturing Industry
EPA, Research Triangle Park, NC, ESD

Abstract: Final rule. Standards of performance for new, modified, and reconstructed facilities that manufacture magnetic tape were proposed in the Federal Register on 01-22-86 (51 FR 2996). This action promulgates the standards of performance for affected facilities that manufacture magnetic tape. These standards implement Section 111 of the Clean Air Act and are based on the Administrator's determination that emissions from industrial paper coating cause, or contribute significantly to, air pollution which may endanger public health or welfare. Magnetic tape manufacturing is part of the industrial paper coating category, which includes coating of foil and plastic film. The intended effect of these standards is to require all new, modified, and reconstructed facilities that manufacture tape to control emissions of volatile organic compounds to the level achievable by the best demonstrated system of continuous emission reduction, considering costs, nonair quality health and environmental impacts, and energy requirements. Effective date: 10-03-88. These standards apply to affected facilities for which construction, reconstruction, or modification commenced ater 01-22-86. Typographical errors are corrected at 53 FR 43799 10-28-88, at 53 FR 47955 11-29-88, and at 53 FR 49822 12-09-88.

CL-VOC	VOLATILE ORGANIC COMPOUNDS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
26	PAPER AND ALLIED PRODUCTS
264	MISC. CONVERTED PAPER PRODUCTS
2641	PAPER COATING AND GLAZING
34	FABRICATED METAL PRODUCTS
349	MISC. FABRICATED METAL PRODUCTS
3497	METAL FOIL AND LEAF
36	ELECTRIC AND ELECTRONIC EQUIPMENT
367	ELECTRONIC COMPONENTS AND ACCESSORIES
3679	ELECTRONIC COMPONENTS, NEC

53 FR 39038 10-04-88
National Emission Standards for Hazardous Air Pollutants (NESHAPs): Extension of Deadlines Under Standards for Radon-222 Emissions from Licensed Uranium Mill Tailings
EPA, Washington, DC, ORP

Abstract: Proposed amendments to rule. This notice proposes an extension of deadlines for application and certification under 40 CFR 61.252(b)(1) and (c) and for decision by the Administrator on an application under 40 CFR 61.252(d) or (e). These extensions are needed to provide additional time for uranium milling operators to decide whether or not to build new tailings impoundments. In addition, they will give EPA more time to decide whether or not to grant extensions to mill owners. These changes postpone these decisions until after EPA has reexamined and possibly changed its present mill tailings NESHAP. This will reduce the regulatory burden on industry and allow EPA to concentrate its resources on its efforts to reconsider the radionuclide NESHAPs.

CL-RAD	RADIATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
10	METAL MINING
10043-92-2	RADON
109	MISCELLANEOUS METAL ORES
1094	URANIUM-RADIUM-VANADIUM ORES
7440-61-1	URANIUM

53 FR 39412 10-06-88
Standards of Performance for New Stationary Sources: Sewage Treatment Plants
EPA, Research Triangle Park, NC, ESD

Abstract: Final rule. The EPA proposed revisions to the testing, monitoring, recordkeeping, and reporting requirements associated with the standards of performance for sewage treatment plants on 04-18-86 (51 FR 13424). These revisions being promulgated leave unchanged the emission limits established in 1974. The revisions require additional performance test measurements as well as monitoring, recording, and reporting of several operating parameters of the control device and the sewage sludge incinerator. Effective date: 11-07-88.

CL-SEWSLUD	SEWAGE SLUDGE
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
SS	SOURCE SAMPLING
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4952	SEWERAGE SYSTEMS
4953	REFUSE SYSTEMS

53 FR 48830 12-02-88
Proposed Guidelines for Exposure-Related Measurements
EPA, Washington, DC, OHEA

Abstract: Proposed guidelines for exposure-related measurements and request for comments. The U.S. Environmental Protection Agency (EPA) is proposing risk assessment guidelines for exposure-related measurements and invites public comment. The Proposed Guidelines for Exposure-Related Measurements are intended to assist those who must recommend, conduct, or evaluate an exposure assessment. These proposed guidelines were developed as part of an interoffice guideline development program under the auspices of EPA's Risk Assessment Forum. The current proposal incorporates comments from external and internal peer reviewers. EPA's Science Advisory Board (SAB) will review these proposed guidelines at a meeting to be held on December 2, 1988. For further details regarding the SAB review, contact Jan Kurtz at (202) 382-2552. Comments must be postmarked by March 2, 1989. Typographical errors are corrected at 54 FR 04942 01-31-89.

CL-VARIOUS	VARIOUS
EA	EXPOSURE ASSESSMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT

53 FR 50354 12-14-88
Standards of Performance for New Stationary Sources Portland Cement Plants: Amendments to Monitoring, Recordkeeping, and Reporting Requirements
EPA, Research Triangle Park, NC, ESD

Abstract: Final rule. Revisions to the monitoring, recordkeeping, and reporting requirements associated with the new source performance standards (NSPS) for portland cement plants were proposed in the Federal Register on September 10, 1985 (50 FR 36956). Such requirements are authorized by Section 114 of the Clean Air Act, 42 U.S.C. 7414. This action promulgates final revisions to the requirements. The effect of this action is to require monitoring and associated recordkeeping and reporting of visible emissions from all kilns and clinker coolers that are subject to the NSPS, i.e., all kilns and clinker coolers that were constructed, modified, or reconstructed after August 17, 1971. Effective date: December 14, 1988.

CL-VARIOUS	VARIOUS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NSPS	NEW SOURCE PERFORMANCE STANDARD
32	STONE, CLAY, AND GLASS PRODUCTS
324	CEMENT, HYDRAULIC
3241	CEMENT, HYDRAULIC
35	MACHINERY, EXCEPT ELECTRICAL
355	SPECIAL INDUSTRY MACHINERY
3559	SPECIAL INDUSTRY MACHINERY, NEC

53 FR 50420 12-15-88

National Emission Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants

EPA, Research Triangle Park, NC, ESD

Abstract: Reopening of the public comment period. On July 28, 1988, EPA proposed rulemaking under Section 112 of the Clean Air Act for five source categories of benzene emissions. That proposal included four policy approaches for setting national emission standards for hazardous air pollutants (NESHAP), consistent with the court's decision on the vinyl chloride standard [Natural Resources Defense Council, Inc. versus EPA, 824 F.2d 1146 (1987)]. The decisions that would result from the application of each of the policy approaches to the five benzene source categories were described, and alternative standards were proposed. In response to requests from several commentors, the period for receiving written comments on the proposed standards is being reopened to provide an opportunity for rebuttal and additional comments on information previously submitted.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
100-41-4	ETHYL BENZENE
100-42-5	STYRENE
108-31-6	MALEIC ANHYDRIDE
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2865	CYCLIC CRUDES AND INTERMEDIATES
29	PETROLEUM AND COAL PRODUCTS
291	PETROLEUM REFINING
2911	PETROLEUM REFINING
33	PRIMARY METAL INDUSTRIES
331	BLAST FURNACE AND BASIC STEEL PRODUCTS
3312	BLAST FURNACES AND STEEL MILLS
34	FABRICATED METAL PRODUCTS
344	FABRICATED STRUCTURAL METAL PRODUCTS
3443	FABRICATED PLATE WORK (BOILER SHOPS)
71-43-2	BENZENE
75-01-4	VINYL CHLORIDE

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53 FR 53014 12-30-88

National Emission Standards for Hazardous Air Pollutants; Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries

EPA, Research Triangle Park, NC, ESD

Abstract: Notice of reopening of public comment period. The period for receiving written comments on the proposed National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries is being reopened for the limited purpose of allowing public comment on data gathered by EPA on new technology for the control of emissions from coke oven door leaks. Available data suggest that this technology has the potential to reduce door leaks to 3 percent leaking doors (PLD) for 4-meter batteries and 7 PLD for 6-meter batteries based on three-run averages. Comments must be postmarked on or before February 28, 1989.

CL-COE	COKE OVEN EMISSIONS
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
33	PRIMARY METAL INDUSTRIES
331	BLAST FURNACE AND BASIC STEEL PRODUCTS
3312	BLAST FURNACES AND STEEL MILLS

53 FR 7024 03-04-88

Acrylamide Health Risk Assessment: Availability and Request for Comments

EPA, Washington, DC, OTS

Abstract: Notice of availability and request for comments. This notice announces the availability of a draft health risk assessment of acrylamide. The assessment reviews acrylamide's carcinogenic, genotoxic, reproductive, developmental, and neurotoxic effects. The manufacture and processing of acrylamide and its use as a soil grout to repair sewer lines are the principal exposure categories examined. Health risks associated with these exposures are presented. Comments on the assessment are requested from the public.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
RA	RISK ASSESSMENT
16	HEAVY CONSTRUCTION CONTRACTORS
162	HEAVY CONSTRUCTION, EXCEPT HIGHWAY
1623	WATER, SEWER, AND UTILITY LINES
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC
79-06-1	ACRYLAMIDE

53 FR 9138 03-21-88

Assessment of Naphthalene as a Potentially Toxic Air Pollutant

EPA, Research Triangle Park, NC, ESD

Abstract: Notice of naphthalene assessment results and solicitation of information. This notice announces the results of EPA's assessment of naphthalene under the Clean Air Act (CAA). The EPA has concluded that the health data base for naphthalene is limited in several respects. Under its weight-of-evidence criteria for cancer data, the Agency has classified naphthalene in Group D (not classifiable as to human carcinogenicity). The health data base for naphthalene is also limited with regard to noncancer health effects. Although exposure to high concentrations of naphthalene has been associated with local and systemic health effects in humans and laboratory animals, there is little information on the health effects of naphthalene at lower exposure levels. Given this lack of information, EPA has determined that regulation of naphthalene under the CAA is not warranted at this time. Given the limited opportunity for prior public review of the health and exposure information incorporated in this notice, the Agency is soliciting comment on this determination. This finding has no effect on the regulation of naphthalene by State and local agencies.

CL-PM	PARTICULATE MATTER
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
HA	HEALTH ASSESSMENT
10028-15-6	OZONE
28	CHEMICALS AND ALLIED PRODUCTS
286	INDUSTRIAL ORGANIC CHEMICALS
2865	CYCLIC CRUDES AND INTERMEDIATES
91-20-3	NAPHTHALENE

54 FR 00912 01-10-89

Asbestos NESHAP Revision, Including Disposal of Asbestos-Containing Materials Removed from Schools

EPA, Research Triangle Park, NC, ESD

Abstract: Notice of proposed rule revision and opportunity for public hearing. These proposed amendments to the asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) require control device and fugitive emission monitoring, recordkeeping, and reporting for asbestos milling, manufacturing, and fabricating operations. For planned demolitions and renovations, the notification requirements are revised and safety is added as a reason for exemption from the use of wet removal methods. Recordkeeping is required for asbestos waste disposal. Clarifying revisions are made to several definitions and provisions. The existing standard and the proposed amendments implement Section 112 of the Clean Air Act and are based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (see 36 FR 3031 03-31-71). The standard proposed today amends the asbestos NESHAP to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls. These regulations also would implement, in part, Section 203(h) of the Asbestos Hazard Emergency Response Act to the extent they apply to disposal of asbestos removed from school buildings.

CL-HAZWAST	HAZARDOUS WASTES
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
NESHAP	NAT'L EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
1332-21-4	ASBESTOS
14	NONMETALLIC MINERALS, EXCEPT FUELS
149	MISCELLANEOUS NONMETALLIC MINERALS
1499	NONMETALLIC MINERALS, NEC
15	GENERAL BUILDING CONTRACTORS
154	NONRESIDENTIAL BUILDING CONSTRUCTION
1542	NONRESIDENTIAL CONSTRUCTION, NEC
17	SPECIAL TRADE CONTRACTORS
179	MISC. SPECIAL TRADE CONTRACTORS
1795	WRECKING AND DEMOLITION WORK
32	STONE, CLAY, AND GLASS PRODUCTS
329	MISC. NONMETALLIC MINERAL PRODUCTS
3292	ASBESTOS PRODUCTS
49	ELECTRIC, GAS, AND SANITARY SERVICES
495	SANITARY SERVICES
4953	REFUSE SYSTEMS

54 FR 01440 01-13-89

Assessment of Sodium Hydroxide as a Potentially Toxic Air Pollutant

EPA, Research Triangle Park, NC, ESD

Abstract: Notice of sodium hydroxide assessment results and solicitation of information. This notice announces the results of EPA's assessment of sodium hydroxide under the Clean Air Act (CAA). The EPA initiated this assessment based on the production volume of sodium hydroxide and the potential for adverse health effects associated with exposure to sodium hydroxide. The results of EPA's preliminary analysis indicate that currently available data are insufficient to establish that emissions of sodium hydroxide to the ambient air pose a significant threat to public health. Based on this information, EPA has determined that regulation of sodium hydroxide under the CAA is not warranted at this time. Given the limited opportunity for prior public review of the health and exposure information incorporated in this notice, the Agency is soliciting comment on its determination. This finding has no effect on the regulation of sodium hydroxide to attain the national ambient air quality standards for particulate matter. In addition, this notice does not preclude any State or local air pollution control agency from specifically regulating emission sources of sodium hydroxide.

EPA	ENVIRONMENTAL PROTECTION AGENCY
EPA1	ENVIRONMENTAL PROTECTION AGENCY
FR	FEDERAL REGISTER NOTICES
HA	HEALTH ASSESSMENT
1310-73-2	SODIUM HYDROXIDE
28	CHEMICALS AND ALLIED PRODUCTS
281	INDUSTRIAL INORGANIC CHEMICALS
2812	ALKALIES AND CHLORINE

APPENDIX A

INDEX TO NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE NEWSLETTER: DECEMBER 1983 THROUGH MARCH 1989

ABOUT THE NEWSLETTERS

The National Air Toxics Information Clearinghouse Newsletter is published by the Clearinghouse to inform interested persons of current activities related to toxic air pollutants. To be placed on the mailing list, contact the Clearinghouse staff at (919) 541-0850 or (FTS) 629-0850.

HOW TO USE THIS INDEX

Alphabetically arranged key word headings (in boldface type) are followed by a subheading describing the context in which the key word appears in the indexed Newsletter article. The title of the article itself is not given since, for example, an article on California's process of identifying and controlling toxic air pollutants might discuss at length, or, at the other end of the scale, briefly mention, a good many topics of interest to Newsletter readers. Both broad topics of discussion and brief mentions of an item are indexed for the sake of completeness.

The subentry is followed in turn by a locator consisting of the Newsletter month and year plus page number on which the information may be found. Subsequent references to the key word in other Newsletters are separated by semi-colons and have their own subentry phrases as necessary. Thus, the entry, Acetaldehyde, tells the reader that he may find that substance referred to in the context of California's air toxics identification and control process on page 5 of the December 1984 Newsletter. The second locator tells the reader that further information on acetaldehyde in the same context (in this case, California revised the list mentioned in the December 1984 article) may be found on page 6 of the May 1985 issue.

AALs: See **Ambient levels, acceptable**

Acceptable Daily Intake (ADI): Jan 1988, 5; compared to RfDs, July 1988, 6-7

Accidental releases: and Houston regional monitoring program, Mar 1988, 10; Houston program and, May 1988, 4; Massachusetts air toxics provisions for, Jan 1989, 2; New Jersey proposes rule to cover, Mar 1988, 6-7; possible TDI releases studied by CTC, June 1987, 4-5; symposium held on, Dec 1986, 11; TACB permit review and, Jan 1988, 2-3; training course to prevent, Mar 1987, 5

Acetaldehyde: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Acetone: and Michigan's use of air stripping of VOCs, Dec 1985, 4; May 1988, 5

ACGIH-TLV: hazardous substances, workplace exposure guidelines for, Sept 1986, 3; and KFEL, Jan 1988, 6; and Maine's air toxics control program, Dec 1983 (7)*;and Massachusetts air toxics control program, Sept 1984, 5; and NESCAUM regional strategy to control perchloroethylene, Dec 1985, 6-7; not used in Kentucky regulation, May 1988, 2; and Ohio interim air toxics policy, Mar 1987, 3; for urea, Nov 1988, 5; use of factored TLV in regulating air toxics, Mar 1987, 4; used in Mississippi permit review program, Dec 1986, 5; and Wisconsin's air toxics program, Sept 1986, 3; and Virginia Air Pollution Control Board rules, Dec 1984, 5-6

Acid gases: as products of resource recovery facilities, Mar 1986, 8-9

Acid scrubbing: tested in hospital sterilizers, May 1988, 9-10

Acrolein: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; May 1988, 5

Acrylic fibers: and EPA prototype scheme for handling, Sept 1984, 3

Acrylonitrile: and EPA report on locating and estimating emissions of, Dec 1985, 11; EPA-sponsored workshop on, June 1986, 11; regulatory status of under Clean Air Act, Dec 1985, 10; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA prototype scheme for handling, Sept 1984, 3; EPA report on, July 1984, 6; Ohio evaluation of, Mar 1987, 2; State/local option to evaluate prior to regulation, Dec 1984, 8-9; TACB reviews sources of, Jan 1988, 3

Actionable levels: and drafting carcinogen policy, Dec 1983 (6)*

Acute Hazards List: and EPA's air toxics strategy, Aug 1985, 5-6

Aerometric Information Retrieval System (AIRS): introduced by EPA, Jan 1989, 9-10; 13

Air and Energy Engineering Research Laboratory (AEERL): Jan 1988, 8

Air Pathway Analysis (APA): May 1988, 7; conducted at Superfund hazardous waste sites, Nov 1988, 8

Air Pollution Control Association (APCA), annual meeting of: abstracts of papers, Sept 1984, 6-7; specialty conference on toxic air pollutants (announced), Aug 1985, 9; and new air toxics committee, Aug 1985, 9

Air pollutants, hazardous: See **Air pollutants, toxic**

Air pollutants, toxic: See also entries under individual States; air species manual available, Nov 1988, 9-10; and air stripping of VOCs during groundwater clean up, Dec 1985, 2-3; air toxics program development guidance available (report), Mar 1986, 6; and new APCA committee, Aug 1985, 9; benzene as, Feb 1984, 2, 3; California to compile list of, July 1988, 5-6; California rule on permits, carcinogens, Mar 1989, 5-7; deleted from Kentucky regulation, May 1988, 2; rulemaking on benzene, Sept 1984, 9; and CAA reauthorization, Apr 1984, 3-4; and California Air Resources Board list of, May 1985, 6; California agency program to reduce, Dec 1986, 3-4; California agency's study of in-car exposure described, June 1987, 3; California rule governing, Mar 1988, 2, 4-5; and cancer, Apr 1984, 6; May 1985, 2-3; and Chemical Emergency Preparedness Program (CEPP), June 1986, 2-4; Connecticut's regulation to control, Sept 1986, 4; list of chemicals and their regulatory status, Dec 1985, 10; defined, Dec 1983 (1)*; development of State and local control programs for, Dec 1983 (4)*; developing standards for, Dec 1983 (4-5)*; emissions data requested by EPA, Mar 1987, 11-12; and emissions inventory procedures, Mar 1986, 11; EPA/AEERL report on, Sept 1986, 11; EPA control technology center (CTC) instituted, Dec 1986, 2; EPA encourages control of, Jan 1989, 3-6; EPA evaluates health risks of, Sept 1988, 5-6; and EPA prototype scheme for handling high individual risk/low national incidence, Sept 1984, 3; EPA reports on, Sept 1984, 2; Dec 1986, 10; Nov 1987, 8-9; Jan 1989, 13; EPA/OAQPS screening study to monitor, Dec 1986, 10; and EPA Six Months Study, Apr 1984, 4-5; and EPA strategy to control, Aug 1985, 3-5; Sept 1987, 8-9; and EPA strategy to control both routine and accidental releases, Aug 1985, 5-7; June 1986, 2-4; June 1986, 8-10; and Harvard School of Public Health project, May 1985, 7; hazardous air pollutant prioritization system (HAPPS), Feb 1984, 5; integrated

---

*The first issue of the Newsletter did not have page numbers. The numbers in parentheses are assigned by order as though pages had been numbered.

Air pollutants, toxic (continued): approaches to control of, Dec 1983 (5)*; integrated approach to control of, Feb 1984, 4; Kentucky regulation of, May 1988, 2-3; link with cancer studied, Nov 1988, 9; and list of current projects on, May 1985, 2; and Maine air toxics inventory, Sept 1984, 4; Maryland adopts comprehensive regulations for, Jan 1989, 10-12; Maryland agency divides into two classes, Sept 1987, 4; MYDP, permit review support evaluated by EPA, Mar 1987, 11; Massachusetts monitoring of, Jan 1989, 2-3; and Massachusetts program, Sept 1984, 5; nonaccidental releases of, Nov 1987, 10; noncarcinogenic, Dec 1984, 2; North Carolina reviews list of for regulation, Mar 1987, 4; and ozone attainment, Nov 1987, 4-5; and proposed standards on radionuclides, Dec 1984, 7-8; NATICH report on State/local air toxics agency activities, Dec 1984, 1; and NESCAUM control policy guideline, Dec 1983 (6)*; and NESCAUM regional strategy for perchloroethylene, Dec 1985, 6-7; and New York toxic air contaminant stack assessment program, Aug 1985, 7-8; and OAQPS development of residential wood combustion NSPS, May 1985, 3-5; OAQPS reports on, Jan 1988, 10-11; model for dispersion and transformation, Jan 1988, 8; as products of resource recovery facilities, Mar 1986, 8-9; and Puget Sound asbestos regulation, Mar 1986, 8; and source sampling methods, Feb 1984, 6; RAPCA emissions data base described, June 1987, 10; Region 6 accidental release program, June 1986, 4-5; research needs highlighted, Jan 1988, 7-8; Rhode Island program to monitor solvents in ambient air, Mar 1987, 5-6; and State/local air pollution control agencies, Sept 1984, 3; June 1986, 8-10; STAPPA/ALAPCO conference on, Dec 1985, 8-9; Sept 1986, 10; STAPPA/ALAPCO policy on, Feb 1985, 4-5; STAPPA/ALAPCO nationwide survey on, Feb 1984, 6; STAPPA/ALAPCO survey of strategies on, Nov 1988, 9-10; State control programs for; Toxic Air Monitoring System (TAMS) set up by EPA, Apr 1984, 7; and TAMS data base, Mar 1986, 10; May 1985, 7; training course to prevent accidental releases of, Mar 1987, 5; vegetation damage from, Feb 1985, 4; and Virginia State Air Pollution Control Board rules, Dec 1984, 5-6; Washington State proposes regulation to limit woodstove emissions, June 1987, 6-7; Wisconsin program on, Sept 1986, 2-4

Air RISC: function of Nov 1988, 4-5; introduction of, July 1988, 4-5; presents workshop on risk assessment, Mar 1989, 5; recent services highlighted, Jan 1989, 9; services of, July 1988, 4-5

Air stripping: report on published by CTC, June 1987, 5; technical guidance for prepared by CTC, Mar 1988, 9; and VOCs during groundwater cleanup, Dec 1985, 2-3

Air toxics control: environmental group/industry views on, Dec 1983 (4)*; Federal/State/local role in, Dec 1983 (4)*; and federal grant support program for, Aug 1984, 4-5; and NATICH data base contents, June 1986, 1-2; and Region 6 inspection program, June 1986, 4-5

Air toxics control management: California agency proposes chromium rule, Mar 1988, 4-5; and EPA Strategy to control both routine and accidental releases, June 1986, 8-10; Maryland's department of the environment described, Sept 1987, 3-4; Monterey Bay agency described, Mar 1988, 2-4;

Air toxics control management (continued): new Mississippi permit review program outlined, Dec 1986, 5; Ohio Division of Air Pollution Control Management described, Mar 1987, 2; Ontario's assessment and, Mar 1988, 7; relation of ozone attainment policy to, Nov 1987, 4-5; South Coast Air Quality Management district described, June 1987, 2-3; South Dakota Department of Water and Natural Resources described, Nov 1987, 3; STAPPA/ALAPCO conference on, Sept 1986, 10; and State integration, July 1984, 2; 1983 workshop on, Feb 1984, 3-5; workshops for State and local agencies on, Dec 1986, 2

Air Toxics Information Clearinghouse: See **NATICH**

Air toxics programs: "model" State, Aug 1985, 3; and MYDPs, Sept 1987, 13-14

Air toxics regulatory process: overview of, Feb 1984, 5

Alaska: analyzes wood smoke, Nov 1987, 3-4; urea dust in, Nov 1988, 4-5

Alkenes: and IARC evaluation of wood smoke photo-oxidation products, June 1986, 5

Allyl chloride: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Ambient air: California agency's monitoring program for, June 1987, 3; characterization of, Feb 1984, 4; monitoring studies of, Feb 1984, 4; sampling of in Alaska, Nov 1987, 3-4; standards for and South Dakota air toxics program, Nov 1987, 3; State ambient air quality standards (AAQSs), Sept 1986, 4; TAC emissions limits for defined by California rule, Mar 1988, 3-4

Ambient levels, acceptable (AALs): emissions from Superfund sites studied, May 1988, 6-7; EPA report on, Jan 1989, 13; how derived in Rhode Island air toxics regulation, Sept 1988, 2-3; Maryland regulation requirements for, Jan 1989, 11-12; and Massachusetts' air toxics control program, Sept 1984, 5; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; NATICH report on, May 1985, 2; NESCAUM control policy guideline, Dec 1983 (6)*; sampled in IACP Boise study, May 1988, 6; TACB monitoring of, Jan 1988, 3; topic at STAPPA/ALAPCO conference, Dec 1984, 2; used in New York's research recovery stack emissions assessment program, Sept 1986, 8; used by PSAPCA to rank risks, July 1988, 2; Wisconsin definitions of, Sept 1986, 3-4

Ambient monitoring: Florida seeking information on, Dec 1986, 11; Houston program and, May 1988, 4; Kentucky's plan for described, May 1988, 3

American Conference of Government Industrial Hygienists: See **ACGIH**

Ammonia: toxicity of, Nov 1988, 5

Ammonium sulfate: measurement of in IACP project to identify airborne carcinogens, Mar 1986, 7

APCA: See **Air Pollution Control Association**

Aniline emissions: and damage to vegetation, Feb 1985, 4

Area sources: and cancer risk, Jan 1989, 4; CTC studies regulation of, Sept 1988, 5

Aromatics: and IARC evaluation of wood smoke photo-oxidation products, June 1986, 5

Arsenic: Dec 1986, 10; Jan 1989, 4; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA rulemaking on, Sept 1984, 9; as contributor to air toxics problem, Sept 1984, 2-3; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; Ohio evaluation of, Mar 1987, 2; TACB reviews sources of, Jan 1988, 3

Arsine: Sept 1988, 4

Asbestos: Jan 1989, 4; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; model inspection program nears completion, Mar 1987, 10-11; NESHAP enforcement in California, June 1987, 2-3; Ohio NESHAP enforcement, Mar 1987, 2; Puget Sound Air Pollution Control Agency regulation adopted on, Mar 1986, 8

Ash: as product of resource recovery facilities, Mar 1986, 8-9; sampled at city incinerator, Sept 1986, 9

Association of Local Air Pollution Control Officers (ALAPCO): See **STAPPA/ALAPCO**

Atmospheric Sciences Research Laboratory (ASRL): Jan 1988, 8

Automated Woodstove Emissions Sampler (AWES): Dec 1986, 9

Automobile refinishing: Sept 1988, 4

Averaging times: and NESCAUM control policy guideline, Dec 1983 (6)*

BACT: Sept 1988, 3, 13; Jan 1989, 5; applied to municipal waste incinerators, Sept 1987, 9; BACT/LAER Clearinghouse, Jan 1989, 6; and California's air toxics control program, Dec 1983,(7)*; California agency rule defines, Mar 1988, 3; and Michigan's air toxics control program, Feb 1984, 4; NESCAUM adopts guideline for, Jan 1989, 6-7; specified in Kentucky regulation, May 1988, 3; cited in California rule on carcinogens,

BACT (continued): Mar 1989, 6-7; T-BACT required in California proposed rule, June 1987, 2; T-BACT required in Maryland's proposed air toxics regulations, Sept 1987, 3; Jan 1989, 11; Texas Air Control Board program, Jan 1988, 2-4; and Wisconsin's hazardous air pollutant program, Sept 1986, 3

Benzene: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; carcinogenicity of emissions, Feb 1984, 3; CAA Section 112 ruling on, Feb 1984, 2; as contributor to air toxics problem, Sept 1984, 2-3; EPA publishes report on, May 1988, 10-11; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; EPA/OAQPS report on emissions of, Mar 1988, 11; and EPA rulemaking on three source categories, Sept 1984, 9; four approaches for NESHAP outlined, Sept 1988, 9-11; and Michigan's use of air stripping of VOCs, Dec 1985, 4; and fugitive emissions at petroleum refineries/chemical manufacturing plants, Feb 1984, 2; NESHAP specifications for, Sept 1987, 12

Benzene storage facilities as benzene emission source: Sept 1988, 10; EPA rulemaking on, Sept 1984, 9; and CAA rulemaking, Feb 1984, 2

Benzo(a)pyrene: Dec 1986, 10; July 1988, 2, 3; Jan 1989, 9; as emission from residential wood combustion devices, May 1985, 3-5; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; study of, Sept 1984, 2

Benzoic acid: use of residue for fuel, Jan 1988, 4

Benzyl chloride: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Beryllium: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Best Available Control Technology. See **BACT**

Boilers: Jan 1988, 4

Bromine: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Burden of proof: and drafting carcinogen policy, Dec 1983 (6)*

Butadiene, 1,3-: Sept 1987, 12; regulatory status of under Clean Air Act, Dec 1985, 10

Cadmium: Sept 1987, 8; Dec 1986, 10; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and New York's toxic air

Cadmium (continued): contaminant stack assessment program, Aug 1985, 7; regulatory status of under Clean Air Act, Dec 1985, 10; as product of resource recovery facilities, Mar 1986, 8-9

California: air toxics control program case study, Feb 1984, 4; air toxics control program, Dec 1983 (4)*; CAPCOA publishes manual on source assessment, Dec 1986, 4; co-sponsors municipal waste combustion workshop, Mar 1987, 8; initiates "hot spots" information program, July 1988, 5-6; local agency program to reduce toxic air contamination risk, Dec 1986, 3-4; proposed carcinogen policy of, Dec 1983 (5)*; spotlight on Monterey Bay Unified Air Pollution Control District, Mar 1988, 2-4; spotlight on South Coast Air Quality Management District, June 1987, 2-3; SCAQMD develops rule covering permits, carcinogens, Mar 1989, 5-7

California Air Resources Board: contaminant identification and control process, Dec 1984, 3-5; establishes rule covering permits, carcinogens, Mar 1989, 5-7; and new public information program, July 1988, 5-6; and prioritized list of potential toxic air contaminants, May 1985, 6;

California Department of Health Services: California site mitigation (toxic clean up) document prepared by, Mar 1986, 6

Cancer, risk of: associated with urban air toxics, Sept 1987, 7; as basis for permit application review, Dec 1986, 5; Chicago risk assessment and, Mar 1989, 10-11; and EPA's six-month study, Jan 1989, 7; how determined in Mississippi permit review program, Dec 1986, 5; link with air toxics studied, Nov 1988, 9; mentioned in Maine radon study, June 1987, 7; and radon emissions from uranium in soil, Mar 1986, 3-5; reduced by control of PM and VOC, Nov 1987, 5; related to point and area sources, Jan 1989, 4; and relationship to toxic air pollutants, May 1985, 2-3

Carbon adsorption: as VOC control technology, Dec 1985, 3

Carbon dioxide: and New York's toxic air contaminant stack assessment program, Aug 1985, 7; as product of resource recovery facilities, Mar 1986, 8-9

Carbon-14: as tracer for wood smoke, Mar 1986, 7; Nov 1988, 3-4

Carbon monoxide: Dec 1986, 8; and New York's toxic air contaminant stack assessment program. Aug 1985, 7; as emission from residential wood combustion devices, May 1985, 4-5; as product of resource recovery facilities, Mar 1986, 8-9; and wood heater NSPS, Dec 1986, 7

Carbon tetrachloride: Sept 1987, 12; Mar 1989, 11; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; EPA reports on, July 1984, 6; Dec 1985, 11; and Michigan's use of airstripping of VOCs, Dec 1985, 4; regulatory status of under Clean Air Act, Dec 1985, 10

Carbonyls: measured in Boise, May 1988, 4-5

Carcinogenic Assessment Group (CAG): Jan 1988, 9

Carcinogens: See also **IRIS**; See also **Mutagens**; and air pollution, report on, Apr 1984, 6; and benzene emissions, Feb 1984, 3; California agency's proposed rule on new source review, June 1987, 2; and California Air Resources Board Contaminant Identification and Control Process, Dec 1984, 3-5; and California proposed policy on, Dec 1983 (5)*; California rule covers permits and, Mar 1989, 5-7; considered in NESCAUM perchloroethylene document, Sept 1986, 11; and EPA air toxics strategy, Aug 1985, 3-5; and EPA air toxics strategy, June 1986, 8; and EPA emissions inventories, June 1986, 10; EPA risk assessment guidelines available on, July 1988, 11; and EPA Six Months Study, Apr 1984, 4-5; epidemiological investigations encouraged by California agency's air toxics program, Dec 1986, 4; in halogenated solvents releases, Nov 1987, 7-8; hazardous air pollutants listed by ACGIH, Sept 1986, 3-4; how treated in Maryland air toxics regulations, Sept 1987, 4; how treated in Mississippi permit review program, Dec 1986, 5; incinerator emissions and, Sept 1986, 9; and IACP evaluation of wood smoke photo-oxidation products, June 1986, 5-6; inhaled gasoline vapor as, Sept 1984, 9; intervention defined with respect to control of, Dec 1983 (5-6)*; and International Agency for Research on Cancer (IARC) list of, Dec 1983 (6)*; and IACP field studies, Dec 1985, 5-6; IACP project to identify airborne, Mar 1986, 7; measured in IACP sugar beet study, May 1988, 4-5; measured in IACP study of woodstoves, Dec 1986, 9-10; method to assess as toxic air pollutant, Mar 1987, 4; NATICH report on risk assessment for, Mar 1987, 1; PCD-dioxins as, Sept 1986, 8; and proposed standards on radionuclides, Dec 1984, 7-8; and results of Chicago emissions inventory, Mar 1987, 7; risk from in Kansas air toxics strategy, Jan 1988, 7; treated in California's rule on toxic air contaminants, Mar 1988, 3; and STAPPA/ALAPCO policy on hazardous air pollutants, Feb 1985, 4-5; and toxic air pollutants, Sept 1984, 2-3; and toxic air pollutants, June 1986, 1; residential wood combustion emissions, Feb 1985, 3; May 1985, 3-5; Nov 1987, 3-4; and VOCs, Dec 1984, 3; Dec 1985, 3

Catalytic oxidation: tested in hospital sterilizers, May 1988, 9-10

CDDs/CDFs: See **Dioxins, Dibenzofurans**

Centers for Disease Control (CDC): Sept 1986, 9

Chamber studies: used in indoor air emission evaluations, Mar 1989, 8

Chattanooga-Hamilton County APCB: cobalt oxide permitting proceeding, Jan 1988, 4-6

Chemical Activities Status (CAS): report (1982), July 1984, 3

Chemical Coordination Publications List: abstracts from, July 1984, 2-4

Chemical designation: and statutes, July 1984, 3

Chemical Emergency Preparedness Program (CEPP): Dec 1985, 8-9; contents of, June 1986, 2-4; and hotline, Dec 1985, 11; June 1986, 3; related to SARA Title III, Dec 1986, 6

Chemical industry: and hazardous organic NESHAP, Sept 1987, 12; New Jersey's chemical accident prevention legislation and, Sept 1986, 5-6; Mar 1988, 7; New Source Performance Standards (NSPS) for, Dec 1985, 8; and Region 6 accidental release inspection program, June 1986, 4-5; symposium held on accident prevention for, Dec 1986, 11

Chemical Information Resource Handbook: publication of by EPA, Feb 1984, 8

Chemical Manufacturers Association: Community Awareness and Emergency Program of (CAEP), June 1986, 3

Chemical manufacturing plants: benzene fugitive emissions from, Feb 1984, 2; as source of toxic air pollutants causing vegetation damage, Feb 1985, 4

Chemical selection methods: bibliography of, July 1984, 3

Chemicals, listed: and EPA air toxics strategy, Aug 1985, 5-7; Dec 1985, 11

Chemicals, toxic: directory of coordinating groups, July 1984, 3; EPA risk assessment guidelines available on mixtures of, July 1988, 11; list of included in Chemical Emergency Preparedness Program (CEPP), June 1986, 3; methodology to evaluate genetic activity developed, July 1988, 8-9

Chlorinated solvents: Sept 1988, 4; work group examines exposure to, Nov 1987, 7-8

Chlorine: Jan 1989, 4; listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Chlorobenzene: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA draft source/emission factor report on, Dec 1984, 9; OAQPS publishes new document on, Dec 1986, 10; regulatory status of under Clean Air Act, Dec 1985, 10

Chloroethane: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Chlorofluorocarbon 113: regulatory status of under Clean Air Act, Dec 1985, 10

Chloroform: Sept 1987, 12; Jan 1989, 7, 8; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA/IEMD

Chloroform (continued): ambient monitoring program, Apr 1984, 5-6; EPA report on, July 1984, 6; Dec 1985, 11; and Michigan's use of air stripping of VOCs, Dec 1985, 4; regulatory status of under Clean Air Act, Dec 1985, 10

Chloroprene: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; regulatory status of under Clean Air Act, Dec 1985, 10

Chrome plating: covered by California air toxics rule, Mar 1988, 5

Chromium: Sept 1987, 8; Dec 1986, 10; July 1988, 2; Jan 1989, 4; Mar 1989, 11; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA proposes ban on cooling tower use, May 1988, 9; EPA report on locating and estimating emissions of, Dec 1985, 11; as product of resource recovery facilities, Mar 1986, 8-9; EPA source/emission factor report on, Dec 1984, 9; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; regulatory status of under Clean Air Act, Dec 1985, 10; rule proposed by California agency, Mar 1988, 4-5; TACB reviews sources of, Jan 1988, 3

Chrysenes: and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Clean Air Act (CAA): effectiveness of, according to House/Senate committee members, Dec 1983 (5)*; and EPA decisions on trichloroethylene and perchloroethylene, Mar 1986, 9; and EPA air toxics strategy, Aug 1985, 3-5; and EPA arsenic rulemaking, Sept 1984, 9; and benzene rulemaking, Feb 1984, 2; Sept 1984, 9; and EPA prototype scheme for handling toxic air pollutants, Sept 1984, 3-4; and EPA report assessing toxic air pollutants, Sept 1984, 2-3; and proposed standards on radionuclides, Dec 1984, 7-8; reauthorization of, Apr 1984, 3-4; Section 105 grants and co-control, Jan 1989, 4; Section 110 and NAAQS attainment, Nov 1987, 4-5; Section 111 invoked in regulation of municipal waste combustion emissions, Sept 1987, 9; Section 112, and intent-to-list, June 1986, 1; and Six Months Study, Apr 1984, 4-5; and STAPPA/ALAPCO conference on air toxics, Dec 1985, 8-9; and STAPPA/ALAPCO policy on hazardous air pollutants, Feb 1985, 4-5; and list of toxic air pollutants and their regulatory status, Dec 1985, 10; Wisconsin's new definition of "hazardous air contaminant" augments CAA definition of, Sept 1986, 3-4

Cleanups, toxic: California "decision tree" document on, Mar 1986, 6

Closed system engineering: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4

Coalition of Northeastern Governors (CONEG): conducts woodstove study, Dec 1986, 8; conducts woodstove study, Dec 1986, 8; prepares report on woodstove emissions, Jan 1988, 11

Cobalt oxide: Chattanooga-Hamilton County permitting proceeding on, Jan 1988, 4-6

Co-control of pollutant emissions: defined, Jan 1989, 3-6

Coke oven emissions: Sept 1988, 10; Mar 1989, 10; health effects of, Jan 1989, 9; recovery plants and benzene, Feb 1984, 2; regulatory status of under Clean Air Act, Dec 1985, 10

Combustion: EPA air toxics strategy and incomplete combustion, Aug 1985, 3-5; EPA report on hospital incinerators, Nov 1987, 5-6; IARC study of woodstove emissions described, June 1987, 10; of municipal waste, workshop on, Mar 1987, 8

Combustion, residential wood-fired: and emission of carcinogens from, May 1985, 2-3; and IACP field studies, Dec 1985, 5-7; and OAQPS development of NSPS on, May 1985, 3-5; Aspen, CO, regulation on, June 1986, 7-8; sampling methods for, Sept 1988, 11-12; studied by IACP, Nov 1988, 3-4

Combustion sources: National Tier 4 dioxin study and, Nov 1987, 8; Nov 1988, 3

Community Right-to-Know provisions: under SARA Title III. See **SARA Title III**

Compliance Data System (CDS): introduced by EPA, Jan 1989, 9-10

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): Apr 1984, 3; Reportable Quantity Provisions in, June 1986, 3; Region 6 inspection program and, June 1986, 5

Connecticut: air toxics control program, Dec 1983 (7)*; develops MWC test protocol, Mar 1988, 9; regulation to control toxic air pollutants described, Sept 1986, 4-5

Consent decree: issued in Philadelphia incinerator testing, Sept 1986, 9

Contingency Preparedness Plans: and EPA air toxics strategy, Aug 1985, 6

Control technology: AEERL research on, Feb 1985, 2-3; California agency rule defines, Mar 1988, 3; carbon adsorption as, Dec 1985, 3; for chrome plating industry, Mar 1988, 5; cost of, Dec 1985, 3; evaluating alternatives under NESCAUM guideline, Jan 1989, 6-7; under hazardous organic NESHAP, Sept 1987, 12; for hospital incinerators, Nov 1987, 6; and indoor radon levels, Mar 1986, 3-5; workshop on, Mar 1988, 11

Control Technology Center (CTC): Jan 1988, 9; develops permit review software, May 1988, 8; described, Dec 1986, 2-3; June 1987, 4-5; Mar 1988, 8-9; functions of, Nov 1988, 8; program growth described, Sept 1988, 4-5

Cooling towers, comfort: Jan 1989, 4; EPA proposes chromium ban in, May 1988, 9

Copper smelters, primary: as inorganic arsenic emissions sources, Sept 1984, 9

Cotton gins: as inorganic arsenic emissions sources, Sept 1984, 9

Cresol: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Criteria pollutants: Florida seeking information on ambient monitoring of, Dec 1986, 11; defined, Dec 1983 (1)*; included in Connecticut air toxics regulation, Sept 1986, 4

Data LOG'r™: Dec 1986, 9

Degreasing: Sept 1988, 3; Rhode Island regulation of, Mar 1987, 6; work group examines solvent exposure on, Nov 1987, 7-8

Dialkyl nitrosamines: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Dibenzofurans: in city incinerator ESP, Sept 1986, 9; effects of in Ohio study, Nov 1988, 2-3; and hospital incinerators, Nov 1987, 5-6

Dibromochloropropane: July 1988, 8

Dichlorobenzene, p-: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Dichloroethane, 1,1-: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Dichloroethane, 1,2-: See **Ethylene dichloride**

Dichlorodifluoromethane: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Dichloromethane: See **Methylene chloride**

Dichloropropane, 1,2-: and EPA/IEMD ambient monitoring program, Apr 1984, 5-6

Diethylether: and Michigan's use of airstripping of VOCs, Dec 1985, 4

Dioxane, 1,4-: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Dioxins: See also **PCDDs**, Sept 1987, 9; in city incinerator ESP, Sept 1986, 9; and combustion source study, July 1984, 7; effects of in Ohio study, Nov 1988, 2-3; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; EPA national strategy on, Apr 1984, 2-3; and hospital incinerators, Nov 1987, 5-6; National Tier 4 study results, Nov 1987, 8; regulatory status of under Clean Air Act, Dec 1985, 10; testing for at incinerator, Sept 1986, 8-9

Diphenylthiourea (DPT), emissions of: and damage to vegetation, Feb 1985, 4

Dispersion calculations: used in study of emissions from chemical plant, Feb 1985, 4

Dispersion models: carried out in Chicago cancer risk assessment, Mar 1989, 10-11; evaluation of performance of, Apr 1984, 5; improvements suggested, Jan 1988, 8; Kentucky regulation requires, May 1988, 3; predicted ambient concentrations in Kansas, Jan 1988, 6-7; and risk assessment/management, Feb 1984, 2; role in Wisconsin air toxics program, Sept 1986, 3-4; used in Ontario, Mar 1988, 7; used in New York's calculations of PCD-dioxin levels, Sept 1986, 8; used in Ohio sampling study, Nov 1988, 2-3

Dry cleaning: Sept 1988, 3; Florida regulation of facilities described, Mar 1987, 3; work group examines solvent exposure in, Nov 1987, 7-8

Emergency response programs: California agency's emergency response team described, June 1987, 2-3; and Chemical Emergency Preparedness Program (CEPP), June 1986, 2-4; commission (ERC) required by SARA Title III, Dec 1986, 6; National Governors' Association report on, Sept 1987, 14; and SARA Title III, Dec 1986, 5-6; South Carolina agency program described, Sept 1987, 5

Emission control requirements: and NESCAUM control policy guideline, Dec 1983 (6)*

Emission factors: compiled for air toxics by OAQPS, Jan 1989, 14; development called for by States, Jan 1988, 7

Emission limitations: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4; EPA/OAQPS documents on, Nov 1987, 8-9; as specified under the hazardous organic NESHAP, Sept 1987, 12; topic at STAPPA/ALAPCO conference, Dec 1984, 2

Emission Measurement Technical Information Center (EMTIC): established by EPA, Mar 1989, 7

Emissions, air: licenses for, Dec 1983 (7)*

Emissions estimation: covered in CAPCOA source assessment manual, Dec 1986, 5

Emissions, fugitive: and California agency rule, Mar 1988, 2

Emissions, hospital incinerator: Nov 1987, 5-6

Emissions inventories: California agency's compilation of described, Mar 1987, 3; California establishes program for, July 1988, 5-6; conducted in Chicago cancer risk assessment, Mar 1989, 10; conducted in South Dakota to begin air toxics program development, Nov 1987, 3; conducted in urban air toxics programs, Sept 1987, 7; EPA compilation of, Mar 1987, 11-12; June 1986, 10; EPA surveys Chicago area, Nov 1987, 6-7; EPA/OAQPS publishes document on, Dec 1986, 10; and NATICH data base contents, June 1986, 1-2; prepared by Ontario, Mar 1988, 7; prepared under SARA Title III reporting requirements, Sept 1987, 11-12; procedures manual on preparation of, Mar 1986, 11; RAPCA completes for point sources, Jan 1989, 7-8; Rhode Island uses in air toxics regulatory decisions, Sept 1988, 2-3; TACB data on, Jan 1988, 3; topic at STAPPA/ALAPCO conference, Dec 1984, 2; techniques, Feb 1984, 4; waferboard plant assessed by CTC, June 1987, 4-5

Emissions, toxic: and landfill excavation rule adopted by South Coast, July 1984, 1-2

Environmental Criteria and Assessment Office (ECAO): Jan 1988, 9

Environmental effects: SARA Section 313 data base introduced, Sept 1988, 13-14

Environmental Monitoring Systems Laboratory (EMSL): Jan 1988, 8

Environmental Protection Agency (EPA): acrylonitrile sources, prototype scheme for handling, Sept 1984, 3; AEERL hazardous air pollutant report, Sept 1986, 11; AEERL, functions of, Feb 1985, 2-3; Air RISC workshop on risk assessment, Mar 1989, 5; and Agency Prevention Work Group, June 1986, 4; IEMD ambient monitoring program on chlorinated organics and aromatics, Apr 1984, 5-6; arsenic Section 112 rulemaking, Sept 1984, 9; benzene storage facilities as benzene emission source, rulemaking on, Sept 1984, 9; carcinogens, airborne, IACP project identifying, Mar 1986, 7; Chemical Activity Status Report (EPA CASR), defined, Feb 1984, 3; Chemical Emergency Preparedness Program (CEPP), Dec 1985, 8-9; Control Programs Development Division (CPDD), State/local air toxics control agencies, June 1986, 9-10; co-sponsors Maine radon study, Mar 1989, 2; CTC current activities outlined, Mar 1988, 8-9; Control Technology Center (CTC) described, June 1987, 4-5; develops hazardous organic NESHAP, Sept 1987, 12; develops IRIS, Mar 1987, 8-9; Sept 1987, 14; develops radon risk communication program, Sept 1988, 6-7; dioxin emissions, national strategy on, Apr 1984, 2-3; dioxin/furan incinerator testing conducted by Region III, Sept 1986, 8-9; encourages co-control of pollutant emissions,

Environmental Protection Agency (EPA) (continued): Jan 1989, 3-6; examines ozone attainment, Nov 1987, 4-5; and hazardous waste TSDF, Apr 1984, 5; HERL develops method to assess toxics genetic activity, July 1988, 8-9; hotline for, Dec 1985, 11; IEMP Phase I completed in Maryland, Sept 1987, 3; introduces AIRS, Jan 1989, 9-10; issues report on indoor air, May 1988, 11; national air toxics strategy section on urban toxics, Mar 1987, 9-10; NSPS on residential wood-fired combustion, OAQPS development of, May 1985, 3-5; OAQPS compiles air toxics emission factors, Jan 1989, 14; OAQPS conducts screening study to monitor toxic air pollutants, Dec 1986, 10; OAQPS co-sponsors air toxics workshop with STAPPA/ALAPCO, Dec 1986, 2; OAQPS documents air pathway analyses, Nov 1988, 8; OAQPS establishes emission measurement center, Mar 1989, 7; OAQPS evaluates noncancer health effects, Sept 1988, 5-6; OAQPS performance of cancer risk assessment for incinerator, Sept 1986, 9; OAQPS publishes benzene report, May 1988, 10-11; OAQPS publishes urban air toxics report, Jan 1989, 14; OAQPS releases national dioxin study results, Nov 1987, 8; OAQPS report on benzene, Mar 1988, 11; studies air toxics/cancer link, Nov 1988, 9; OAQPS/OTS coordinates SARA Section 313 activities, July 1988, 7-8; OAQPS/OTS plan for SARA Section 313 data, May 1988, 8; OAR, ORD institute air toxics control technology center, Dec 1986, 2-3; and OTS emissions inventories conducted under SARA Title III, Sept 1987, 11-12; operates risk assessment forum, Nov 1988, 7-8; ORD organization and air toxics responsibilities outlined, Jan 1988, 8-10; OTS concludes SARA Title III, Section 313 QA surveys, Jan 1989, 12-13; outlines policy approaches for benzene regulation, Sept 1988, 9-11; plans regulation of municipal waste disposal, Sept 1987, 8-9; prepares indoor air quality plan for Congress, Sept 1987, 7-8; prepares permit review support, Mar 1987, 11; Region V conducts air toxics inventory (Chicago), Nov 1987, 6-7; proposes ban on chromium in cooling towers, May 1988, 9; releases IRIS to public, July 1988, 10-11; Region X VOC/risk assessment completed, Sept 1987, 5-6; report on hospital incinerators, Nov 1987, 5-6; reviews multiyear development plan progress, Mar 1987, 11; role in indoor air quality, Mar 1989, 8-9; strategy to control toxic air pollutants, Dec 1986, 2; Jan 1989, 3-4; Six Months Study, Apr 1985, 3-5, 5-7; Dec 1985, 11; strategy to control toxic air pollutants, Aug 1985, 3-5, 5-7; Dec 1985, 11; Sept 1987, 8-9; Nov 1987, 4; strategy to control both routine and accidental releases, June 1986, 8-10; studies ethylene oxide control technology, May 1988, 9-10; Toxic Air Monitoring System (TAMS), Apr 1984, 7; and technical support for multiyear development plan (MYDP), June 1986, 9; toxic air pollutants, prototype scheme for handling, Sept 1984, 3-4; trichloroethylene and perchloroethylene, decisions on, Mar 1986, 9; urban air toxics progress in all regions described, Sept 1987, 6-7

Epichlorohydrin: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA report on locating and estimating emissions of, Dec 1985, 11; EPA draft source/emission factor report on, Dec 1984, 9; regulatory status of under Clean Air Act, Dec 1985, 10; TACB reviews sources of, Jan 1988, 3

Epigenetic mechanisms: and drafting carcinogen policy, Dec 1983 (6)*

Ethylbenzene: and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Ethylbenzene/styrene: plants as benzene emissions source (EPA rulemaking on), Sept 1984, 9; process vents and CAA rulemaking, Feb 1984, 2

Ethylene dibromide: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; process vents, Sept 1988, 10

Ethylene dichloride: Sept 1987, 12; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA reports on, July 1984, 6; Dec 1985, 11; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; and Michigan's Use of Air Stripping of VOCs, Dec 1985, 4; regulatory status of under Clean Air Act, Dec 1985, 10

Ethylene oxide: Sept 1987, 12; Jan 1989, 4; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; control devices for hospital use as sterilant, July 1988, 10; control devices for, May 1988, 9-10; OAQPS publishes new document on, Dec 1986, 10; regulatory status of under Clean Air Act, Dec 1985, 10

Exposure assessment: covered in CAPCOA source assessment manual, Dec 1986, 5; EPA risk assessment guidelines available on, July 1988, 11

Exposure Assessment Group (EAG): Jan 1988, 9

Exposure modeling: used to detect halogenated solvents, Nov 1987, 7-8

Extractable Organic Matter (EOM): measured in IACP study, Nov 1988, 3-4

Extraction processes: as sources of radionuclide emissions, Dec 1984, 7

Fees: for permit emissions levied by State governments, June 1987, 11

Florida: agency seeking information on ambient monitoring, Dec 1986, 11; dry cleaning facility regulations described, Mar 1987, 3

Formaldehyde: Dec 1986, 10; July 1988, 2; Mar 1989, 11; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA reports on, July 1984, 6; Dec 1985, 11; and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Fuel, waste-derived: New Jersey rule on, Apr 1984, 2

Gasoline marketing industry sources: EPA rulemaking on benzene emissions sources, Sept 1984, 9

Genetic toxicants: EPA risk assessment guidelines available on suspected, July 1988, 11; new system to evaluate introduced, July 1989, 8-9

Georgia Environmental Protection Division: and control of vegetation damage from toxic air pollutants, Feb 1985, 4

Glass manufacturing plants: as inorganic arsenic emissions sources, Sept 1984, 9

Great Lakes Agreement: Mar 1987, 2

Groundwater: report on air strippers for, June 1987, 5

Halogenated solvents: Nov 1987, 7

Hazard index, EPA's: used in Chattanooga monitoring, Jan 1988, 6

Hazardous Air Pollutant Prioritization System (HAPPS): Feb 1984, 5

Hazardous air pollutants: See **Air pollutants, hazardous**

Hazardous material: burning of for fuel, Apr 1984, 2; emergency planning guide prepared, Nov 1987, 10

Hazardous organics: EPA develops NESHAP, Sept 1987, 12

Hazardous waste disposal: California agency's enforcement of regulations, June 1987, 3; document on pathway analyses for, Nov 1988, 8; and EPA Six Months Study, Apr 1984, 4; Massachusetts air toxics provisions for, Jan 1989, 2; Texas regulations on disposal of, Jan 1988, 3

Hazardous waste treatment, storage and disposal facilities (TSDF): and EPA emissions inventory of carcinogens, June 1986, 10; responsibility for developing regulations transferred, Apr 1984, 5

Health effects: See also **IRIS**; as basis for chemical-specific air toxics guidelines, Dec 1983 (4-5)*; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4; and chemicals in the work place, Dec 1983 (5)*; and EPA air toxics strategy, Aug 1985, 6; and Massachusetts air toxics control program, Dec 1983 (7)*; noncancer, Sept 1988, 5-6, 8; and NESCAUM control policy guideline, Dec 1983 (6)*; SARA Section 313 data base introduced, Sept 1988, 13-14; STAPPA/ALAPCO conducts survey of, Nov 1987, 10; and radon emissions from uranium in soil, Mar 1986, 3; TACB develops biological test system to monitor, Jan 1988, 3; and VOCs, Dec 1985, 3

Health Effects Research Laboratory (HERL): Jan 1988, 8, 10

Health risks: (toxics-related), and cost, July 1984, 2-3; and dioxin, Apr 1984, 2-3

Heavy metal particles: as products of resource recovery facilities, Mar 1986, 8-9

Hexachlorocyclopentadiene: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; regulatory status of under Clean Air Act, Dec 1985, 10

Home Evaluation Program (HEP): Maine participation in, Mar 1989, 2

Hospital sterilizers: See also **Ethylene oxide**; EPA studies ethylene oxide in, May 1988, 9-10; new technology to control ethylene oxide use in, July 1988, 10

Hospital waste incinerators: and CTC, Mar 1988, 9; required by California program to submit risk assessments, Dec 1986, 4; study on released, Jan 1989, 14; workshop on, Mar 1988, 11

Hot spots: California initiates information program on, July 1988, 5-6; treatment of toxic by California agency, Mar 1988, 5

Houston: monitoring program described, May 1988, 3-4

Hydrocarbons: and IARC evaluation of wood smoke photo-oxidation products, June 1986, 5

Hydrochloric acid: as product of resource recovery facilities, Mar 1986, 8-9

Human exposure data: and Michigan's air toxics control program, Feb 1984, 4

Human Exposure Model (HEM): Jan 1989, 8

Hydrogen chloride: and hospital incinerators, Nov 1987, 5-6; listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5; and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Hydrogen cyanide: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Hydrogen fluoride: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Hydrogen sulfide: Jan 1989, 9; listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Idaho: examines sugar beet VOC emissions, May 1988, 4-5; sampling program in under IACP, Sept 1988, 11-12

Incinerators: dioxin/furan testing for, Sept 1986, 8-9

Incinerators, hospital: and CTC, Mar 1988, 9; EPA report on, Nov 1987, 5-6; workshop on, Mar 1988, 11

Incineration at sea: and hazardous wastes, Feb 1984, 6

Indoor air: See also **Radon**; EPA prepares plan on, Sept 1987, 7-8; EPA report on, May 1988, 11; EPA's role in controlling quality of, Mar 1989, 8-9; in-car air toxics study described, June 1987, 3; and Indoor Air Quality Research Act of 1985, Dec 1985, 9; and Indoor Air Source Emissions Data Base (IASE) (source characterization) data base, June 1986, 11; Maine survey of radon in, Mar 1989, 2; and radon emissions from uranium in soil, Mar 1986, 3-5; as research area for AEERL, Feb 1985, 2-3; sampled in IACP Boise study, May 1988, 6; topic at STAPPA/ALAPCO conference, Dec 1984, 2

Industry Assistance Office: See **TSCA Assistance Office**

Industry File Index (IFIS): defined, Feb 1984, 3; overview of, July 1984, 4

Inhalation pathway: cited in California rule on carcinogens, Mar 1989, 6

Integrated Air Cancer Project (IACP): airborne carcinogens project, Mar 1986, 7; Boise study described, May 1988, 4-5; description of, May 1985, 2-3; field studies conducted by, Dec 1985, 5-6; Idaho sampling program, Sept 1988, 11-12; and project to evaluate mutagenic activity of wood smoke photo-oxidation products, June 1986, 5-6; reports woodstove emissions measurements, Dec 1986, 9-10; Roanoke selected as study site, May 1988, 5-6; samples from identified by GC/MI-R, Sept 1987, 13; study of mobile sources and wood smoke mutagenicity, Nov 1988, 3-4; and support from AEERL, Feb 1985, 2-3; woodstove emission study described, June 1987, 9

Integrated Environmental Management Project (IEMP): Maryland completes Phase I of, Sept 1987, 3; Jan 1989, 12

Integrated Risk Information System (IRIS): available to public, July 1988, 10-11; described, Mar 1987, 8-9; Sept 1987, 14; files to be added for SARA Section 313 chemicals, July 1988, 11

Intent-to-list: and EPA decisions on trichloroethylene and perchloroethylene, Mar 1986, 9; and Section 112, Clean Air Act, June 1986, 1; and STAPPA/ALAPCO conference on air toxics, Dec 1985, 8

International Agency for Research on Cancer (IARC): and list of carcinogens, Dec 1983 (6)*; list of hazardous air pollutants and carcinogens compiled by, Sept 1986, 3-4; uses HERL genetic toxicity studies, July 1988, 8-9

Intervention: defined with respect to carcinogen control, Dec 1983 (5-6)*

Kansas: adopts air toxics strategy, Jan 1988, 6-7; uses Kansas Further Evaluation Level (KFEL), Jan 1988, 6-7

Kentucky: spotlight on air toxics program, May 1988, 2-3

Kerosene heaters: emissions from, Mar 1989, 9

Landfills: alternatives to, Aug 1985, 7-8; California agency's hazardous waste enforcement efforts at, June 1987, 3; excavation of and South Coast rule governing toxic emissions from, July 1984, 1-2; information on disposal facilities sought, Sept 1987, 15; and NYDEC research recovery stack emissions assessment program, Sept 1986, 8

Lead: Dec 1986, 10; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; as product of resource recovery facilities, Mar 1986, 8-9

Lead, inorganic: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Lead smelters, primary and secondary: as inorganic arsenic emissions sources, Sept 1984, 9

Letter of intent: See **Memorandum of Understanding**

Listed pollutants, emission limits for: and STAPPA/ALAPCO policy on hazardous air pollutants, Feb 1985, 4-5

Lowest Achievable Emission Rate (LAER): Sept 1988, 13; basis for NESCAUM top-down BACT, Jan 1989, 6; and Kansas air toxics strategy, Jan 1988, 7

Lowest Observed Adverse Effect Level (LOAEL): Nov 1988, 5; how identified in Rhode Island air toxics regulation, Sept 1988, 2-3; and RfDs, July 1988, 6

Lowest Observed Effects Level (LOEL): Jan 1988, 5

Louisiana: and special study identifying toxic air pollutants, Feb 1984, 6

Maine: air toxics control program, Dec 1983 (7)*; and air toxics inventory, Sept 1984, 4; Bureau of Health conducts wood smoke assessment, Dec 1986, 7-8; spotlight on Maine Department of Human Services, Mar 1989, 2; State agency studies radon in air and groundwater, June 1987, 7-8

Maleic anhydride plants as benzene emissions source: EPA rulemaking on, Sept 1984, 9; and California Air Resources Identification and Control Process, Dec 1984, 5; May 1985, 6; and CAA rulemaking on process vents, Feb 1984, 2

Manganese: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA report on locating and estimating emissions of, Dec 1985, 11; EPA draft source/emission factor report on, Dec 1984, 9; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; regulatory status of under Clean Air Act, Dec 1985, 10

Maryland: adopts comprehensive regulations for toxic air pollutants, Jan 1989, 10-12; SARA Title III data on industries in, Nov 1988, 6; spotlight on Department of the Environment, Sept 1987, 3-4; studies radon risk communication, Sept 1988, 6-7

Massachusetts, Commonwealth of: and air toxics control program, Dec 1983 (4-5, 7)*; Sept 1984, 5; spotlight on air toxics monitoring, Jan 1989, 2-3

Material safety data sheets (MSDS): Jan 1989, 7

Media relations: used in incinerator dioxin testing program, Sept 1986, 8-9

Medical, research, and training facilities: as sources of radionuclide emissions, Dec 1984, 7

Memorandum of Understanding (MOU): and EPA prototype scheme for handling toxic air pollutants, Sept 1984, 3; and State/local option to evaluate acrylonitrile, Dec 1984, 9

Mercury: Sept 1987, 9; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; as product of resource recovery facilities, Mar 1986, 8-9

Methane: as emission from residential wood combustion devices, May 1985, 4-5

Methyl bromide: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Methyl chloroform: See also **Trichloroethane, 1,1,1-**; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; regulatory status of under Clean Air Act, Dec 1985, 10

Methylene chloride: Sept 1987, 12; Sept 1988, 3; Jan 1989, 7, 8; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; regulatory status of under Clean Air Act, Dec 1985, 10; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Methyl isocyanate: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Michigan Air Pollution Control Commission: and air stripping of volatile organic compounds, Dec 1985, 2-3

Michigan: air toxics control program, Dec 1983 (4)*, Feb 1984, 4

Mississippi: announces air toxics permit review program, Dec 1986, 5

Mobile sources: and air pollution/cancer report, Apr 1984, 6; and EPA Six Months Study, Apr 1984, 5; and emission of carcinogens from, May 1985, 2-3; and IACP project identifying airborne carcinogens, Mar 1986, 7; and IACP field studies, Dec 1985, 5-6; mutagenicity of emissions of, Nov 1988, 3-4; new regulations for, Dec 1985, 8

Modacrylic fibers: and EPA prototype scheme for handling, Sept 1984, 3

Modeling: California agency's use of in compiling emissions inventory, June 1987, 3; examples of, Feb 1984, 4; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; numerical, Apr 1984, 2; performed at incinerator, Sept 1986, 9; receptor and IACP project identifying airborne carcinogens, Mar 1986, 7; workshop on, Mar 1988, 11

Monitoring, air toxics: California agency's programs for ambient air, June 1987, 3; and Connecticut air toxics regulation, Sept 1986, 5; considerations of, Dec 1983 (6)*; Houston program described, Mar 1988, 10; May 1988, 3-4; Indoor Air Source Emissions Data Base update, June 1986, 11; Massachusetts program for, Jan 1989, 2-3; program conducted by EPA, Apr 1984, 5; program for urban air toxics described, Sept 1987, 7; for RCRA VOC/risk assessment program, Sept 1987, 5-6; study of, Sept 1984, 2; used in study of emissions from chemical plant, Feb 1985, 4; and New Hampshire's air toxics control program, Dec 1983 (7)*; and New Jersey's air toxics control program, Dec 1983 (7-8)*; TACB programs to assess toxics, Jan 1988, 3; and Toxic Air Monitoring System (TAMS), May 1985, 7; topic at STAPPA/ALAPCO conference, Dec 1984, 2; used in Dayton, Ohio, PM network, Mar 1988, 8

Most Appropriate Occupational Level (MAOL): and Massachusetts' air toxics control program, Sept 1984, 5; and NESCAUM regional air toxics strategy for perchloroethylene, Dec 1985, 6-7

Multipathway analysis: cited in California rule on carcinogens, Mar 1989, 6

Multiyear development plan (MYDP): and EPA air toxics strategy, June 1986, 8-9; and EPA urban air toxics programs, Sept 1987, 7; progress reviewed, Mar 1987, 11; summary of development, Sept 1987, 13-14

Municipal waste combustion: Nov 1988, 3; study conducted by CTC/NESCAUM, June 1987, 5; test protocol for development by CTC/NESCAUM, Mar 1988, 9

Municipal waste disposal: EPA plans regulation of, Sept 1987, 8-9; and EPA Six Months Study, Apr 1984, 4; NESCAUM sponsors workshop on, Mar 1987, 8

Mutagens: EPA risk assessment guidelines available on, July 1988, 11; and IACP evaluation of wood smoke photo-oxidation products, June 1986, 5-6; IACP study of, Nov 1988, 3-4

National Air Toxics Information Clearinghouse (NATICH): announces working group members, Nov 1987, 1-2; charter adopted by Working Group, Dec 1983 (1-2)*; "report card" results described, Sept 1987, 1-2; staff duties highlighted, Jan 1989, 2; Working Group meets to review activities and plan future, Sept 1986, 1

NATICH data base: agency contacts to trade releases under under SARA, May 1988, 1-2; capabilities of, Mar 1986, 2; changes in programs and log on procedures, June 1987, 1-2; contents of, May 1985, 1-2; June 1986, 1-2; fees for use of, Dec 1985, 2; function of Newsletter in, Dec 1983 (2)*; final development plan for; Dec 1983 (2)*; how to access, Feb 1985, 1-2; Aug 1985, 1-2; Mar 1986, 2-3; June 1986, 2; Nov 1987, 2; inception of, Dec 1983 (1)*; information dissemination tools, Dec 1983 (2)*; material covered in, Dec 1985, 1; on-line data entry and editing systems initiated, Dec 1986, 1-2; permit records in, June 1986, 2; reasons for accessing on-line, Sept 1987, 1-2; risk analysis results incorporated into, Nov 1988, 1-2; security system for, Sept 1986, 1; State and local agency participation in, July 1988, 1; using passwords for, Mar 1989, 1; who can use, Dec 1985, 1;

NATICH reports: carcinogen risk assessment is topic of, Mar 1987, 1; how to obtain, Dec 1985, 2; list of current, Sept 1987, 2; ordering procedures for, Mar 1986, 3; Sept 1986, 2; price list for, Nov 1987, 2; purposes of, Dec 1983 (1)*; and State/local air agency needs, Dec 1983 (2)*; risk communication report to be published, Mar 1988, 2; State/local air toxics agency activities, Dec 1984, 1; titles prepared for, Sept 1986, 1-2

National Acid Precipitation Program: Jan 1988, 3

National Ambient Air Quality Standards (NAAQS): TSP and 1987 revision to, Jan 1989, 4-5; U.S. attainment of, Nov 1987, 4

National Contingency Plan, The: June 1986, 3; and EPA air toxics strategy, Aug 1985, 5

National Dioxin Strategy (EPA): Apr 1984, 2-3

National Emissions Data System (NEDS): Jan 1989, 9; used in Chicago emissions inventory, Nov 1987, 6-7; used by IACP, May 1988, 5-6

National Governors' Association (NGA): Jan 1988, 7-8

Natural Resources Defense Council (NRDC): analyzes Maryland SARA Title III data, Nov 1988, 6

National Response Team (NRT), The: and EPA air toxics strategy, Aug 1985, 5; Regional Response Team, June 1986, 3

National Toxic Chemical Release Inventory (TRI) data base: established, Nov 1988, 6-7; how to access, Nov 1988, 6-7

National Toxicology Program (NTP): carcinogens and hazardous air pollutants identified by, Sept 1986, 3-4

NESCAUM: See **Northeast States for Coordinated Air Use Management**

NESHAP: Nov 1988, 9; approaches for benzene outlined, Sept 1988, 9-11; asbestos inspection program, Mar 1987, 10-11; enforcement and EPA air toxics strategy, Aug 1985, 3-5; enforcement of standards on asbestos in California, June 1987, 3; and EPA air toxics strategy, June 1986, 9; EPA report on, Sept 1984, 3; for hazardous air pollutants, Jan 1989, 4; hazardous organic NESHAP under development, Sept 1987, 12; proposed for commercial and hospital sterilizers, May 1988, 9-10

New Hampshire: air toxics control program, Dec 1983 (7)*

New Jersey: air toxics control program, Dec 1983 (7-8)*; EPA support activities of, July 1988, 8; passes first chemical accident prevention legislation, Sept 1986, 5-6; proposes rule to cover accidental releases, Mar 1988, 6-7; and waste oil as fuel regulation, Apr 1984, 2

New Source Review (NSR): July 1988, 2; nonattainment permit requirements for, Jan 1989, 5; Texas Air Control Board program, Jan 1988, 2-4

New York: air toxics control program, Dec 1983 (4, 8)*, Feb 1984, 4; NYDEC's resource recovery stack emissions assessment program, Sept 1986, 7-8; NYSERDA conducts woodstove study, Dec 1986, 8; NYSERDA prepares report on woodstove emissions, Jan 1988, 11; prepares report on woodstove smoke emissions, Jan 1988, 11; studies radon risk communication, Sept 1988, 6-7; and toxic air contaminant stack assessment program, Aug 1985, 7-8

Nickel: as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA reports on, July 1984, 6; Dec 1985, 11; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; regulatory status of under Clean Air Act, Dec 1985, 10

Nitrile rubber: and EPA prototype scheme for handling, Sept 1984, 3

Nitrobenzene: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Nitrosamines: and Wisconsin's air toxics program, Sept 1986, 3

Nitrosomorpholine: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Nitrogen oxides (NO_x): Jan 1988, 3; as emissions from residential wood combustion devices, May 1985, 4-5; and IACP evaluation of wood stove photo-oxidation products, June 1986, 5-6; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; as product of resource recovery facilities, Mar 1986, 8-9

Noncriteria pollutants: See Air pollutants, toxic

No Observed Adverse Effect Levels (NOAELs): how identified in Rhode Island air toxics regulation, Sept 1988, 2-3; and RfDs, July 1988, 6

No Observable Effect Level (NOEL): Jan 1988, 5; Nov 1988, 5; used in regulating air toxics, Mar 1987, 4

North Carolina: Jan 1989, 9; reviews list of toxic air pollutants for regulation, Mar 1987, 4

Northeast States for Coordinated Air Use Management (NESCAUM): Jan 1988, 7; adopts BACT guideline, Jan 1989, 6-7; develops MWC test protocol with CTC, Mar 1988, 9; and move to certify resource recovery facility operators, Mar 1986, 8-9; and noncriteria pollutant control policy guideline, Dec 1983 (6)*; perchloroethylene health evaluation document and, Sept 1986, 11; publishes newsletter, Nov 1987, 9; regional air toxics strategy for perchloroethylene, Dec 1985, 6-7; resource recovery workshop coordinated by, Sept 1986, 10; sponsors municipal waste combustion workshop, Mar 1987, 8; sponsors training course to prevent accidental releases, Mar 1987, 5; studies municipal waste combustion, June 1987, 5; and waste oil combustion presentation, Sept 1984, 8

Nuclear power reactors: as sources of radionuclide emissions, Dec 1984, 7

Office of Air Quality Planning and Standards (OAQPS): report on toxic air pollutants, sources, Jan 1988, 10-11

Office of Air and Radiation (OAR): and TSDF regulations, Apr 1984, 5

Office of Health and Environmental Assessment (OHEA): Jan 1988, 8

Office of Solid Waste (OSW): and TSDF regulations, Apr 1984, 5

Office of Solid Waste and Emergency Response (OSWER): and National Dioxin Strategy, Apr 1984, 3

Office of Water (OW): and National Dioxin Strategy, Apr 1984, 3

Ohio: radon levels in dwellings measured, Sept 1986, 6-7; RAPCA compiles PM network data, Mar 1988, 7-8; RAPCA tests for radon in, Mar 1989, 3-4; spotlight on Air Quality Development Authority, Nov 1988, 2-3; spotlight on Division of Air Pollution Control, Mar 1987, 2

Ontario, Canada: initiates air toxics assessment, Mar 1988, 7

Operation and maintenance conditions: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4

Oregon: ranks risk of wood combustion, July 1988, 2

Organic compounds: as products of resource recovery facilities, Mar 1986, 8-9

Organic gases, toxic: audit cylinders for, Aug 1985, 8

Ozone: attainment policy for, Nov 1987, 4-5; and EPA air toxics strategy, Aug 1985, 3; and enhancement of air toxics program, Jan 1989, 5; and IACP evaluation of wood stove photo-oxidation products, June 1986, 5-6

PAH: Sept 1987, 9; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; covered in Ontario air toxics assessment, Mar 1988, 7; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; ratio of studied in woodstove tracers, June 1987, 9-10; use of in GC/MI-R, Sept 1987, 13

Particulate matter: Dec 1986, 8; Nov 1987, 6; Nov 1988, 9; Jan 1989, 4; and Colorado laws governing restaurants and street sanding, June 1986, 8; and IACP project identifying airborne carcinogens, Mar 1986, 7; in indoor air and uranium decay, Mar 1986, 3; and Harvard School of Public Health project, May 1985, 7; limited by wood heater NSPS, Dec 1986, 7; measured in IACP study, Nov 1988, 3-4; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; Ohio agency compiles network data on, Mar 1988, 7-8; from residential wood combustion (OAQPS development of RWC NSPS to control), May 1985, 3-5; sampling of in Alaska, Nov 1987, 3-4; TSDF report covers emissions of, Dec 1986, 11

Particulate speciation: EPA/OAQPS report on, Nov 1987, 9

PCBs: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA/OAQPS reports on, Nov 1987, 8-9; and New York's toxic air contaminant stack assessment program, Aug 1985, 7

PCDDs: Sept 1987, 8; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and New York resource recovery stack emissions assessment program, Sept 1986, 7-8; and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Pennsylvania: local agency regulation to control waste-derived liquid fuels, Dec 1986, 3

Pentachlorophenol (PCP): emission information requested, Apr 1984, 8

Perchloroethylene: Sept 1987, 12; Sept 1988, 3; as contributor to air toxics problem, Sept 1984, 2-3; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA decision on, Mar 1986, 9; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; NESCAUM health document on, Sept 1986, 11; and NESCAUM regional strategy to control, Dec 1985, 6-7; regulated by Florida dry cleaning facility regulation, Mar 1987, 3; regulatory status of under Clean Air Act, Dec 1985, 10

Permissible Exposure Limits (PELs): developed by California for air toxics rule, Mar 1988, 3

Permitting: California proposed rule on, June 1987, 2-3; California rule covers carcinogens and, Mar 1989, 5-7; CAPCOA source assessment manual designed to assist, Dec 1986, 4-5; for chemical company emitting cobalt oxide, Jan 1988, 4-6; and Connecticut's air toxics control regulation, Sept 1986, 4-5; and CTC, Mar 1988, 9; CTC/NJDEP develop software for, May 1988, 8; Houston monitoring program and, May 1988, 3-4; Maryland process described, Sept 1987, 3-4; and Monterey Bay (CA) agency rule, Mar 1988, 2; new Mississippi program on, Dec 1986, 5; NESCAUM adopts BACT guideline to promote consistency in, Jan 1989, 6-7; and New York/Michigan's air toxics control programs, Feb 1984, 4; report on agency fees for, June 1987, 11; Rhode Island air toxics regulation and, Sept 1988, 3; TACB policies on, Jan 1988, 2-3; workshop on, Mar 1988, 11

Permits, building: and Aspen, Colorado, regulation on woodburning, June 1986, 8

Pesticides: CTC/Florida evaluate emissions from burning of plastic containers for, Sept 1988, 4; dioxin contamination of, Apr 1984, 3

Petroleum refineries: benzene fugitive emissions from, Feb 1984, 2

Phenol: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; regulatory status of under Clean Air Act, Dec 1985, 10

Philadelphia, City of: air toxics control program, Dec 1983 (4)*; testing for dioxins at incinerator, Sept 1986, 8-9

Phosgene: Sept 1988, 4; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA report on locating and estimating emissions of, Dec 1985, 11; EPA draft source/emission factor report on, Dec 1984, 9; listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Phosphorus plants, elemental: as sources of radionuclide emissions, Dec 1984, 7

Phosphorus trichloride: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5

Point sources: Jan 1989, 4; and cancer risk, Jan 1989, 4; RAPCA emission inventory of, Jan 1989, 7-8; and STAPPA/ALAPCO policy on hazardous air pollutants, Feb 1985, 4-5

Pollutants, organic: measured by Toxic Air Monitoring System (TAMS), Apr 1984, 7; as emission from residential wood combustion devices, May 1985, 3-5; regulatory status of under Clean Air Act, Dec 1985, 10

Polycyclic organic matter (POM): Dec 1986, 8; Jan 1989, 4; Mar 1989, 11; EPA/OAQPS reports on, Nov 1987, 8-9; and wood heater NSPS, Dec 1986, 7; and IACP woodstove emission measurement, Dec 1986, 9-10

Prevention of Significant Deterioration (PSD): Jan 1989, 5; permit remand in California, Mar 1987, 11

Prioritization: California Air Resources Board use of for potential toxic air contaminants, May 1985, 6; and drafting carcinogen policy, Dec 1983 (6)*; and New York air toxics control program, Dec 1983 (8)*; and toxic air pollutants, Feb 1984, 5

Propanol, 2-: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Propylene: and IARC evaluation of wood smoke photo-oxidation products, June 1986, 5

Propylene oxide: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Publicly Owned Treatment Works (POTW): as contributor to air toxics problem, Sept 1984, 2

Puget Sound Air Pollution Control Agency (PSAPCA): asbestos regulation adopted by, Mar 1986, 8; spotlight on, July 1988, 2-4; urban air toxics study described, June 1987, 7; and waste-derived fuel regulation, Dec 1985, 4-5

Radionuclides: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; and withdrawal of EPA proposed standards for, Dec 1984, 7

Radium facility wastes: and radon emissions from, Mar 1986, 3

Radon, emissions of: and indoor air, Mar 1986, 3-5; Maine survey on, Mar 1989, 2; measured in Ohio, Sept 1986, 6-7; and proposed standards on radionuclides, Dec 1984, 8; RAPCA tests for in schools, Mar 1989, 3-4; RAPCA's study results described, Mar 1987, 6-8; requirements of Superfund provisions on, Mar 1989, 8; risk communication programs for, Sept 1988, 6-7; studied in Maine, June 1987, 7-8

Reasonably Available Control Technology (RACT): Sept 1988, 13; Jan 1989, 5; specified in Kentucky regulation, May 1988, 3; used in PM control at chemical manufacturer in Tennessee, Jan 1988, 4

Reference doses, (RfD) inhalation: See also **IRIS**; Jan 1988, 5; defined by OHEA, July 1988, 6-7; methodology developed for, July 1988, 6-7

Reference doses, (RfD) oral: See also **IRIS**; July 1988, 6

Reference matrix isolation infrared spectral library: Sept 1987, 13

Refineries: wastes from, July 1984, 2

Regional Air Pollution Control Agency (RAPCA): compiles PM network data, Mar 1988, 7-8; completes point source emission inventory, Jan 1989, 7-8; measures Ohio radon levels, Sept 1986, 6-7; results of radon study described, Mar 1987, 6-8; tests for radon in schools, Mar 1989, 3-4; toxic emissions data base described, June 1987, 10

Regional Coordinators: role of, May 1988, 7

Regional deposited dose ratios (RDDRs): function in RfD derivation, July 1988, 7

Regional Response Team (RRT): and EPA air toxics strategy, Aug 1985, 5

"Reg Neg": used to draft wood heater NSPS, Dec 1986, 7

Removal efficiency: and airstripping of VOCs, Dec 1985, 3

Reproductive Assessment Group (REAG): Jan 1988, 9

Residential Wood Combustion (RWC): See Combustion, residential wood-fired

Resource Conservation and Recovery Act (RCRA): and Chicago emissions inventory, Mar 1987, 7; facilities assessment completed in Idaho, Sept 1987, 5-6; and TSDF regulations, Apr 1984, 5

Resource recovery facility: certification of operators of, Mar 1986, 8-9; facilities required by California program to submit risk assessments, Dec 1986, 4; NESCAUM coordinates workshop on, Sept 1986, 10; New York program on stack emissions, Sept 1986, 7-8; and New York's toxic air contaminant stack assessment program, Aug 1985, 7-8

Resource Recovery Facility Emission Characterization (RRFECS): See **New York State Department of Environmental Conservation (NYDEC)**

Rhode Island: program to monitor solvents in ambient air, Mar 1987, 5-6; spotlight on Division of Air and Hazardous Materials, Sept 1988, 2-4

Right-to-know amendments: and Chemical Emergency Preparedness Program (CEPP), June 1986, 4; and Superfund, Dec 1985, 9; and workers with respect to chemical health effects, Dec 1983 (6)*

Risk analysis: results of incorporated into NATICH data base, Nov 1988, 1-2

Risk appraisal: and toxic cleanups, Mar 1986, 6

Risk assessment: See also **IRIS**; and air toxics, Feb 1984, 2; May 1988, 5; as basis for Connecticut toxic air pollutant regulation, Sept 1986, 4; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4-5; and Clean Air Act, Dec 1983 (5)*; conducted for MWCs, Sept 1987, 9; conducted in Chicago for urban cancer, Mar 1989, 10-11; conducted in urban air toxics programs, Sept 1987, 7; EPA's integrated risk information system described, Mar 1987, 8-9; EPA forum on, Nov 1988, 7-8; EPA guidelines available on, July 1988, 11; EPA introduces Air RISC, July 1988, 4-5; EPA Region X study described, Sept 1987, 5-6; five basic concepts of, Feb 1984, 4; HERL study of process needs, Jan 1988, 10; improvements in methods called for, Jan 1988, 7-8; IRIS data base information on, Sept 1987, 14; Maine conducts assessment of wood smoke, Dec 1986, 8; and NATICH data base, June 1986, 1-2; NATICH report on carcinogens, Mar 1987, 1; and NESCAUM regional strategy to control perchloroethylene, Dec 1985, 6-7; new California program requires, July 1988, 5-6; relation to air toxics programs stressed by California agency, Dec 1986, 4; reproductive assessment guidelines for, Nov 1988, 10; requested in incinerator testing, Sept 1986, 9; and risk management, Dec 1983 (5-6)*; Feb 1984, 2; topic at STAPPA/ALAPCO conference, Dec 1984, 2; and "two-step" benzene NESHAP process, Sept 1988, 9-10; role in California permit denial, Mar 1989, 5; used in New Jersey chemical accident prevention legislation, Sept 1986, 5; (carcinogen) used in North Carolina regulation, Mar 1987, 4; used in Ohio sampling study, Nov 1988, 2-3; used by work group in examining solvent exposure, Nov 1987, 7; and waste oil handling and disposal, Feb 1984, 5; workshop on, Mar 1989, 5

Risk communication: EPA program on described, June 1987, 5-6; hotline for, Nov 1987, 10; NATICH report on planned, Mar 1988, 2

Risk estimates: role of in benzene rulemaking, Feb 1984, 3

Risk management: and air toxics, Feb 1984, 2; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4-5; EPA's integrated risk information system (IRIS) described, Mar 1987, 8-9; EPA, State agencies improve for radon, Sept 1988, 6-7; IRIS data base information on, Sept 1987, 14; and Maryland's proposed air toxics regulations, Sept 1987, 3-4; and New Jersey chemical accident prevention rule, Mar 1988, 6-7; and risk assessment, Feb 1984, 2; topic at STAPPA/ALAPCO conference, Dec 1984, 2; used in New Jersey to prevent chemical accidents, Sept 1986, 5; workshop on, Mar 1989, 5

ROADMAPS: introduced, Sept 1988, 13

Roanoke: selected as IACP study site, May 1988, 5-6

Sampling, soil: EPA/ESED report on TSDF covers, Dec 1986, 11

SARA Title III: and community right-to-know amendment, Dec 1985, 9; data from Maryland industries, Nov 1988, 6; directory for data base established (ROADMAPS), Sept 1988, 13-14; emissions from Superfund sites, May 1988, 7; and EPA air toxics strategy, Aug 1985, 6-7; EPA coordinates Section 313 activities, July 1988, 7-8; establishes toxic release data base, Nov 1988, 6-7; and EPA Six Months Study, Apr 1984, 4; IRIS data to include information on, chemicals listed by, July 1988, 11; OAQPS/OTS Section 313 plan for data, May 1988, 7-8; one industry states goals under, Sept 1988, 13; Section 313 OTS concludes QA pilot surveys under, Jan 1989, 12-13; reporting requirements, Sept 1987, 11-12; requirements of, Dec 1986, 5-6; requirements for radon, Mar 1989, 8; Title III workshops conducted on, June 1987, 11; Toxic Release Inventory developed for, May 1988, 1-2

Science review panel: and drafting carcinogen policy, Dec 1983 (6)*

Sewage treatment plants: and EPA Six Month Study, Apr 1984, 5

Site investigation: and toxic cleanups, Mar 1986, 6

Six Month Study, EPA: See also **National Air Toxics Strategy**; Nov 1988, 9; Jan 1989, 7; and Agency's air toxics strategy, Apr 1984, 4-5; Aug 1985, 3-5

Solid waste: Texas regulations on disposal of, Jan 1988, 3

Solvents: Rhode Island program to monitor ambient levels of, Mar 1987, 5-6

Source assessment: CAPCOA publishes manual on, Dec 1986, 4; research needs in outlined, Jan 1988, 7-8

Source sampling methods: and toxic air pollutants, Feb 1984, 6

South Carolina: county agency community awareness and emergency response program, Sept 1987, 5

South Coast Air Quality Management District (SCAQMD): establishes rule covering permits, carcinogens, Mar 1989, 5-7; and rule governing toxic emissions from landfills, July 1984, 1-2

South Dakota: spotlight on Department of Water and Natural Resources, Nov 1987, 3

Speciation factors: manual on, Nov 1988, 9-10

Stack sampling: emissions from chemical plant studied, Feb 1985, 4; New York resource recovery operation program, Sept 1986, 7-8; New York's toxic air contaminant assessment program on, Aug 1985, 7-8; performed at city incinerator, Sept 1986, 9; and resource recovery facilities, Mar 1986, 8-9; used in Connecticut air toxics regulation, Sept 1986, 5

State Implementation Plan (SIP): and co-control of air pollutants, Jan 1989, 4-6; and EPA's national air toxics strategy, Nov 1987, 4

State/local air toxics control agencies: technical assistance for, Dec 1984, 2; partnership with Federal agencies, Aug 1985, 3-4; July 1984, 2, 4; Dec 1985, 8

State and Territorial Air Pollution Program Administrators (STAPPA)/ Association of Local Air Pollution Control Officials (ALAPCO): and appointment of air toxics policy work group, Feb 1984, 6; conducts noncancer survey, Nov 1987, 10; conference on air toxics control, Sept 1986, 10; and EPA air toxics strategy, Aug 1985, 3-5; conferences of, Dec 1983 (3-4)*; July 1984, 6; Sept 1984, 8; Dec 1984, 2-3; coordinates SARA Section 313 data collection, July 1988, 7; members of NATICH working group meet, Sept 1986, 1; and NATICH, Dec 1983 (1)*; and NATICH data base, Dec 1985, 1-2; national air toxics workshops sponsored by, June 1987, 8; and policy on hazardous air pollutants, Feb 1985, 4-5; prepares report on air permit and emissions fees, June 1987, 11; and EPA Six Months Study, Apr 1984, 5-6; sponsors urban air toxics workshops, Mar 1989, 9-10; survey of toxic air pollutants, Feb 1984, 6; updates toxic air pollutant report, Nov 1988, 9

Stationary sources: Sept 1987, 8; and Air Pollution/Cancer report, Apr 1984, 6; audit cylinders available for, Aug 1985, 8; California rules to reduce cancer risk from, Mar 1989, 6; PM emissions from woodstoves limited by NSPS, Dec 1986, 7

Sterilizers, hospital and commercial: control of ethylene oxide proposed, May 1988, 9-10

Styrene: and EPA prototype scheme for handling, Sept 1984, 3

Styrene-butadiene: Jan 1989, 4

Substitute compounds: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 4

Sugar beet processing: VOC emissions from, May 1988, 4-5

Sulfur dioxide (SO_2): Jan 1988, 3; and New York's toxic air contaminant stack assessment program, Aug 1985, 7; as refinery waste site contaminant, July 1984, 2; as product of resource recovery facilities, Mar 1986, 8-9

Sulfur oxides (SO_x): as emissions from residential wood combustion devices, May 1985, 4-5

Superfund sites: See also **SARA Title III**; emissions studied, May 1988, 6-7

Systems Applications Human Exposure and Dosage (SHED): Feb 1984, 4

Systems Applications Human Exposure and Risk (SHEAR): Feb 1984, 4

T-BACT: See **BACT**

Tennessee: Chattanooga-Hamilton County APCB cobalt oxide permitting proceeding, Jan 1988, 4-6

Teratogens: See **Genetic toxicants**

Tetrachlorodibenzo-p-dioxin, 2,3,7,8-(2378-TCDD): in city incinerator ESP, Sept 1986, 8; and dioxin combustion source study, July 1984, 7; and New York's toxic air contaminant stack assessment program, Aug 1985, 8; Sept 1986, 8

Tetrachloroethane, 1,1,2,2-: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Tetrachloroethylene: detected in Rhode Island ambient air, Mar 1987, 6

Tetrahydrothiophenes: as refinery waste site contaminant, July 1984, 2

Texas: air toxics control program, Dec 1983 (4)*; ; Houston Regional Monitoring Program described, Mar 1988, 10; research division and functions of TACB, July 1984, 5; and special study identifying toxic air pollutants, Feb 1984, 6; spotlight on TACB, Jan 1988, 2-4

Threshold Ambient Limit (TAL): May 1988, 3

Threshold Limit Values^{R}: See **TLV**

Tiers 1-7: See **Dioxin, EPA National Strategy on**

TLV: See **ACGIH-TLV**

Toluene: Jan 1989, 7, 8; regulatory status of under Clean Air Act, Dec 1985, 10; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Toluene-2,4-diisocyanate: listed as Extraordinarily Hazardous Substance in New Jersey, Sept 1986, 5; possible accidental releases studied by CTC, June 1987, 4-5

Total Suspended Particulate (TSP): Dec 1986, 8; and EPA emissions inventory of carcinogens, June 1986, 10; and 1987 revision to NAAQS, Jan 1989, 4-5

Toxic Air Monitoring System (TAMS): data currently available described, June 1987, 9; established by EPA, Apr 1984, 7; functions defined, Mar 1986, 10; three monitoring sites established for, May 1985, 7

Toxic air pollutants: See **Air pollutants, toxic**

Toxic Catastrophe Prevention Act: passed by New Jersey, Sept 1986, 5

Toxic Release Inventory: May 1988, 1-2, 8

Toxic Substances Control Act (TSCA): and chromium ban for cooling towers, May 1988, 9; and EPA prototype scheme for handling toxic air pollutants, Sept 1984, 3-4; and Chemical Emergency Preparedness Program (CEPP), June 1986, 3; Federal activities in, July 1984, 4; grants to States, analysis of, July 1984, 4; information collection record keeping requirements of, and EPA air toxics strategy, Aug 1985, 6-7; inventory of chemicals in commerce, July 1984, 4; status report for existing chemicals, July 1984, 3

Toxicity model: and Michigan's air toxics control program, Feb 1984, 4

Trace metals: trends in Dayton, Ohio, monitoring of, Mar 1988, 8

Transformation models: improvements suggested, Jan 1988, 8

Treatment, Storage & Disposal Facilities (TSDF): Mar 1989, 11; as contributor to air toxics problem, Sept 1984, 2; emissions inventory of in Chicago, Nov 1987, 6-7; EPA/ESED report on soil sampling, Dec 1986, 11

Tribromomethane: and Michigan's use of air stripping of VOCs, Dec 1985, 4

Trichloroethane, 1,1,1-: detected in Rhode Island ambient air, Mar 1987, 6; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Trichloroethylene: Sept 1988, 3; Sept 1987, 12; regulatory status of under Clean Air Act, Dec 1985, 10; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; as contributor to air toxics problem, Sept 1984, 2-3; detected in Rhode Island ambient air, Mar 1987, 6; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; EPA decision on, Mar 1986, 9; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Trichlorofluoromethane: and Michigan's use of air stripping of VOCs, Dec 1985, 4

TSCA: See **Toxic Substances Control Act**

TSCA Assistance Office (TAO): functions of, Apr 1984, 7

Unit risk factors: used in Dayton, Ohio, monitoring, Mar 1988, 8; Nov 1988, 3

Uranium: radon emissions from and indoor air, Mar 1986, 3-5; Uranium Mill Tailing Radiation Control Act, Mar 1986, 3; mines as sources of radionuclide emissions, Dec 1984, 8

Urban aerosols: and Harvard School of Public Health project, May 1985, 7

Urban soup: Jan 1988, 4; EPA high risk program on, Mar 1987, 6; EPA/OAQPS publishes report on, Jan 1989, 14; Maryland studies in Baltimore, Jan 1989, 12; Ohio ambient air study, Nov 1988, 3; Ohio programs on, Mar 1987, 2; round-up on EPA's activities in all regions, Sept 1987, 6-7; Seattle ambient air study of, July 1988, 2; treated in EPA's national air toxics strategy, Mar 1987, 9-10; Washington agency studies, June 1987, 7; workshop on, Mar 1989, 9-10

Urea dust: Air RISC research on effects of, Nov 1988, 4-5

Users Network for Applied Modeling of Air Pollutants (UNAMAP): Mar 1988, 2

Vanadium: and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Variance (for air toxics source): defined by Wisconsin, Sept 1986, 3

Vermont: talc dust from quarry in, Nov 1988, 5

Vinyl chloride: and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6

Vinylidene chloride: Jan 1989, 4; court decision on and benzene regulation, Sept 1988, 9; regulatory status of under Clean Air Act, Dec 1985, 10; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; EPA draft source/emission factor report on, Dec 1984, 9; and EPA report on locating and estimating emissions of, Dec 1985, 11

Virginia State Air Pollution Control Board: noncriteria pollutant control rules adopted, Dec 1984, 5-6

Volatile Organic Compounds (VOCs): Nov 1987, 6; Jan 1988, 3; Nov 1988, 9; Jan 1989, 4, 7; and air stripping, Dec 1985, 2-3; and cancer, Dec 1984, 3; CTC publications on, Sept 1988, 4-5; and EPA air toxics monitoring data base, June 1986, 11; and EPA emissions inventory of carcinogens, June 1986, 10; EPA/OAQPS report on, Nov 1987, 9; EPA Region X completes study of, Sept 1987, 5-6; Houston monitoring program, Mar 1988, 10; Houston monitoring program and, May 1988, 3-4; from Idaho sugar beet processing, May 1988, 4-5; Ontario air toxics assessment, Mar 1988, 7

Volatile Organic Sampling Train (VOST): procedures for, Aug 1985, 8

Waferboard: plant studied by CTC, June 1987, 4

Washington: agency conducts urban air toxics study, June 1987, 7; State proposes wood smoke legislation, June 1987, 6-7; spotlight on PSAPCA, July 1988, 2-4

Waste-derived fuel: Allegheny County (PA) regulation to control burning of, Dec 1986, 3; combustion and marketing of, Dec 1985, 4-5; New Jersey rule on, Apr 1984, 2

Wastes, hazardous: and incineration at sea, Feb 1984, 6; and Puget Sound waste-derived fuel regulation, Dec 1985, 5

Waste incineration: and New York's toxic air contaminant stack assessment program, Aug 1985, 7-8; solid waste disposal options discussed, Sept 1986, 10

Waste oil combustion: NESCAUM presentation on, Sept 1984, 8; and toxic emissions, Dec 1984, 2

Waste oil handling and disposal: as risk assessment case study, Feb 1984, 5

Wastewater treatment: Sept 1988, 4; Mar 1989, 11; emissions inventory of in Chicago, Nov 1987, 6-7; and EPA emissions inventory of carcinogens, June 1986, 10; and New Jersey chemical accident prevention rule, Mar 1988, 7

Water: use of air strippers for, Mar 1988, 9

Water quality analysis: conducted at incinerator ash pile, Sept 1986, 9

Water treatment plants: and New Jersey chemical accident prevention rule, Mar 1988, 7

Wisconsin: program on hazardous air pollutants, Sept 1986, 2-4

Wood combustion, residential: Mar 1989, 11; and IACP field studies, Dec 1985, 5-7

Wood preservatives: bibliography of, Dec 1985, 9

Wood smoke: and Aspen, Colorado, regulation on woodburning, June 1986, 7-8; and IARC evaluation of mutagenic activities of photo-oxidation products, June 1986, 5-6; Maine conducts assessment of, Dec 1986, 7-8; measurement of in IACP project to identify airborne carcinogens, Mar 1986, 7; mutagenicity of emissions of, Nov 1988, 3-4; State of Washington proposes legislation on, June 1987, 6-7; study on woodstove emissions, Jan 1988, 11; tracers studied, June 1987, 9

Woodstoves: See also **Combustion, residential wood-fired**; and catalytic combustors, May 1985, 4-5; certification of in Washington State, July 1988, 4; emissions from analyzed by GC/MI-R, Sept 1987, 13; emissions from and conference on, Feb 1985, 6; emissions measured by IACP, Dec 1986, 9-10; and EPA Six Months Study, Apr 1984, 5; field study of conducted in Vermont and New York, Dec 1986, 8; included in Maine's wood smoke assessment, Dec 1986, 7-8; methods for sampling emissions of, Sept 1988, 11-12; operating characteristics and relation to smoke tracers, June 1987, 9; "reg neg" used in drafting NSPS covering, Dec 1986, 7; as research area for AEERL, Feb 1985, 2-3; study of emissions of, Jan 1988, 11; Washington State proposes legislation to control emissions from, June 1987, 6; Washington State regulation on, July 1988, 2

Wood treatment: Sept 1988, 4

Working group, NATICH: appointment of, Dec 1983 (1, 3)*; approves NATICH objectives and guidelines, Feb 1984, 1

Workplace exposure guidelines: Wisconsin recommendations for, Sept 1986, 3

Xylene: Jan 1989, 7, 8; and California Air Resources Contaminant Identification and Control Process, Dec 1984, 5; May 1985, 6; detected in Rhode Island ambient air, Mar 1987, 6; and EPA/IEMD ambient monitoring program, Apr 1984, 5-6; and Michigan's use of air stripping of VOCs, Dec 1985, 4

Zinc: and New York's toxic air contaminant stack assessment program, Aug 1985, 7

Zinc oxide plants: as inorganic arsenic emissions sources, Sept 1984, 9

Zinc smelters, primary: as inorganic arsenic emissions sources, Sept 1984, 9

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